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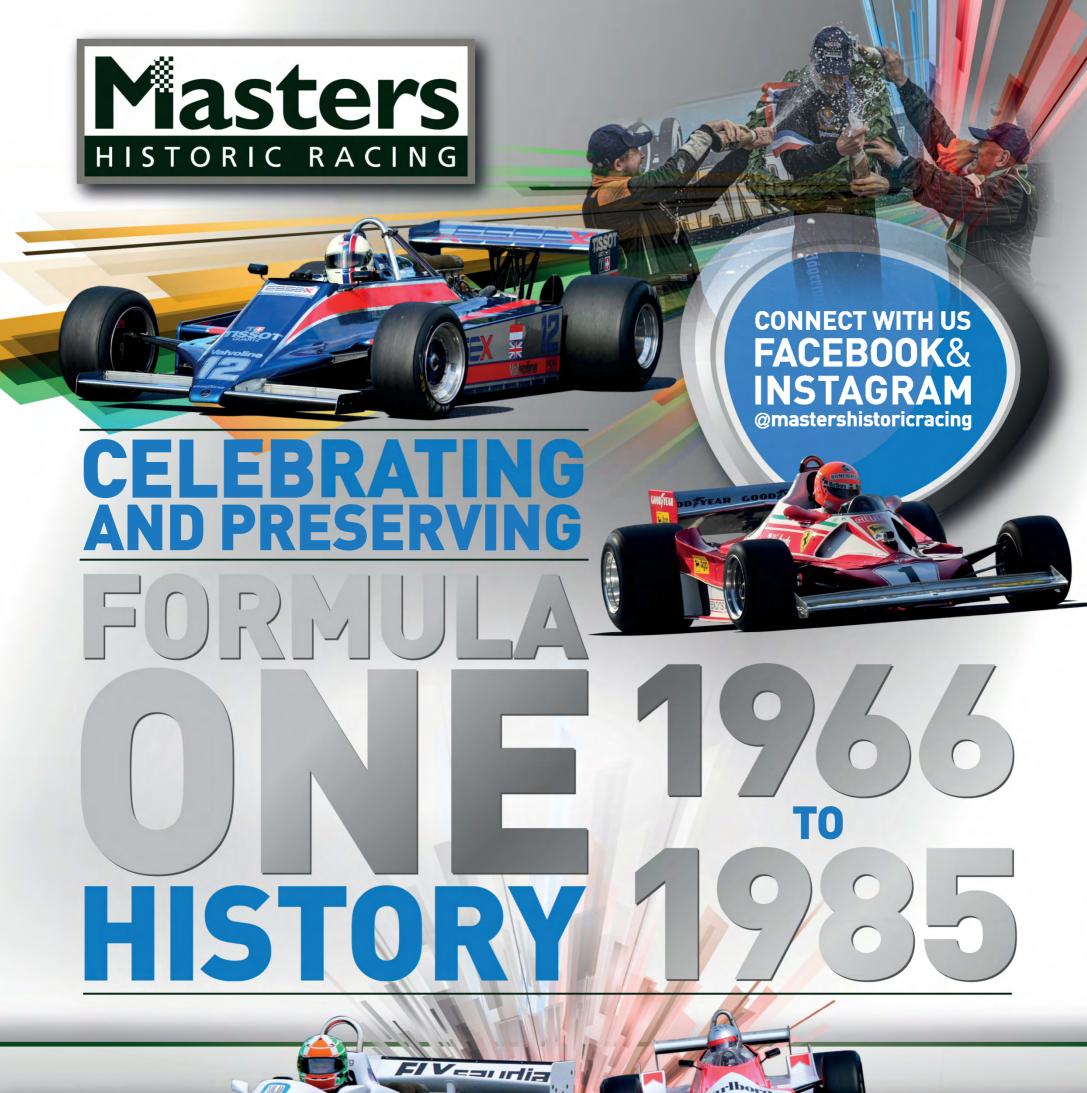
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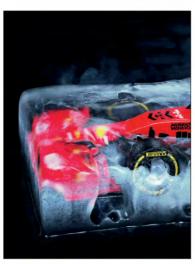
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IGNITION

MARCH 2022



Contributors



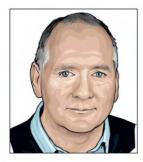
ANDREW BENSON This month, BBC Sport's chief F1 writer explores Lawrence Stroll's ambitious plans for Aston Martin (p56)



Mick Schumacher is

LUKE SMITH

under scrutiny as he begins his F1 career, so Luke investigates how he's handled the pressure so far (p50)



MARK GALLAGHER

In addition to his regular column, Mark takes a look at Renault's rebranding as Alpine and its management reshuffle (p63)



STUART CODLING

Stuart analyses the token system and what the teams have been able to change for 2021 (p32) plus the driver merry-go-round (p42)



Despite the freeze, change is in the air

Here we go again; just more of the same, right? Well, maybe not... Yes, the pandemic is still here, and this F1 season (to begin with certainly) is going to feel quite similar to the last, but that doesn't mean everything is set in stone and all we're about to witness is yet another Mercedes coronation while we await the revolution.

Change is in the air already, and that's what we're celebrating in this month's bumper issue.

First up, there are some pretty significant rule changes. As we explain on page 32, the teams have all had to hack back their floors, which are crucial performance differentiators, so the cars will suffer some pretty extreme downforce losses - and Mercedes will surely bear the brunt of that. Pirelli is changing the tyres too – eight tenths per lap slower says Lewis Hamilton – which always throws a curveball at the engineers.

Then you've got a token system governing which parts of the car can be unfrozen and which can't be touched to save costs. Against the drastic financial impact the pandemic has wrought, teams have also got the budget cap to manage – another area where Mercedes stands to lose more than most...

The Mercedes driver line-up is (just about) stable, though it will be interesting to see what effect Hamilton's unusual one-year contract has on team cohesion, but elsewhere there are a raft of new faces in unfamiliar places (see page 42): Sebastian Vettel, Sergio Pérez, Carlos Sainz and

Daniel Ricciardo have all switched teams, plus rookies Mick Schumacher, Nikita Mazepin and Yuki Tsunoda join the grid. And Fernando Alonso returns to F1, coming 'home' to the rebranded Renault team (now Alpine) with which he won his two world titles in the mid-2000s.

Renault's evolution is just one of several major transformations over the off-season, as F1 becomes a championship made up of valuable franchises rather than live-fast, die-young vehicles of speculation. Mercedes is now co-owned by chief sponsor Ineos, working more closely with Williams, and supplying McLaren with engines again. Meanwhile, another customer – Racing Point – has become the Aston Martin 'works' team (see page 56). Red Bull is set to become an engine builder from 2022, while Ferrari is looking to sportscars while also forging closer ties with its partner teams.

There's a lot going on, even before you consider the prospect of a reset to zero points and a fresh championship battle to look forward to (see page 72). Mercedes – and Hamilton – are obvious favourites to repeat for the eighth consecutive season (!), but Red Bull and Max Verstappen ended last year stronger and will no doubt be determined to use that momentum to give outgoing engine partner Honda the best send-off possible.

Plenty of reasons already to think again about this season being just more of the same – and we'll be with you every step of the way.

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Strolling out under Friday night lights

My team's had a new paint job as well as some new faces this year and, while I've already seen what the new Aston Martin AMR21 looks like under artificial (studio) lights, I was keen to see how it would look in motion under the spotlights.

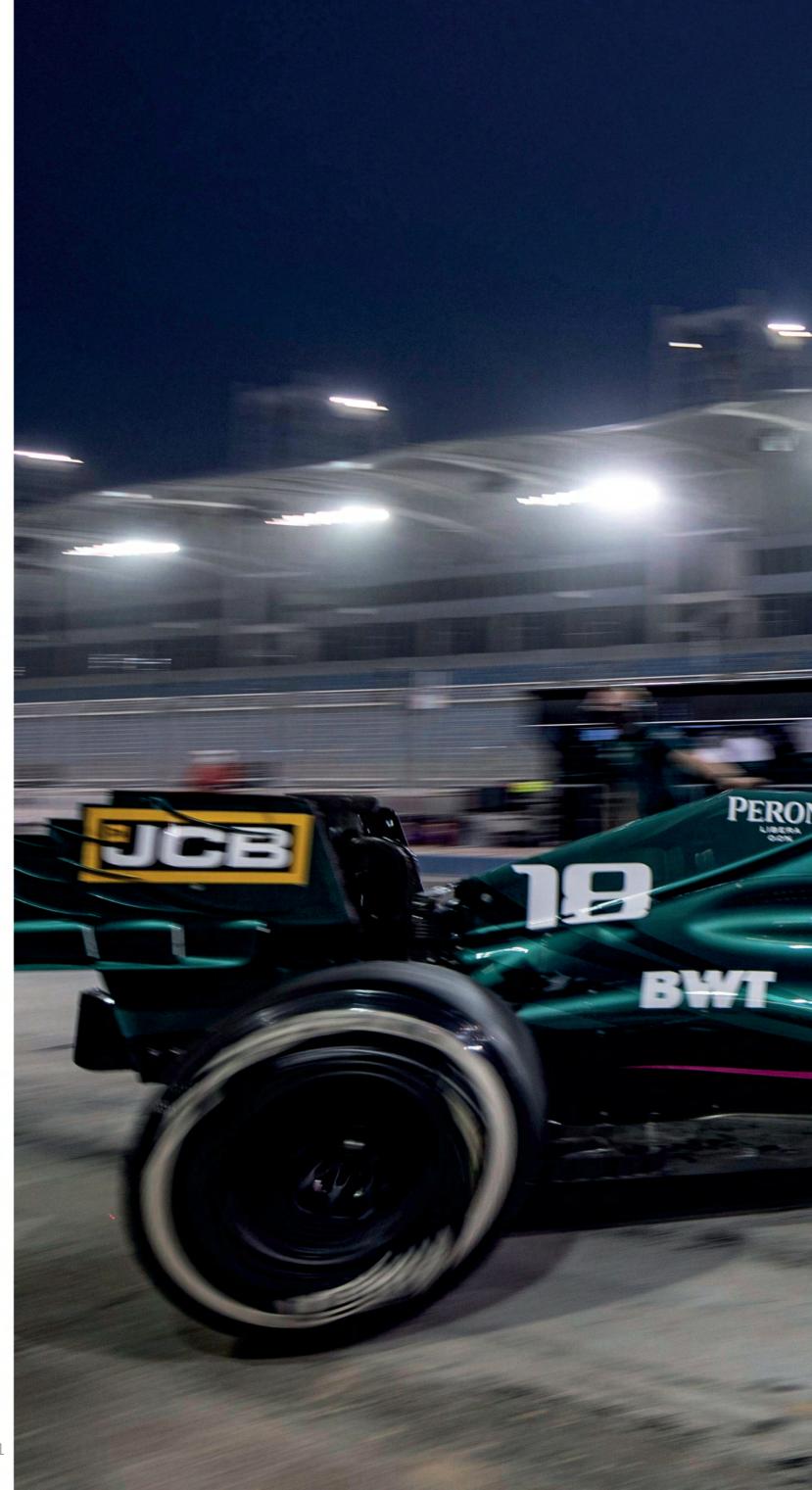
A plus point of testing in Bahrain rather than in Spain was that there were more hours of representative running available during the day. In Barcelona in February it's often too cold and damp before 10 o'clock, then the temperatures plummet after dark. In Bahrain you can carry on under the lights, and I think the AMR21's paint job looks pretty swish in this panning shot as Lance leaves the garage...

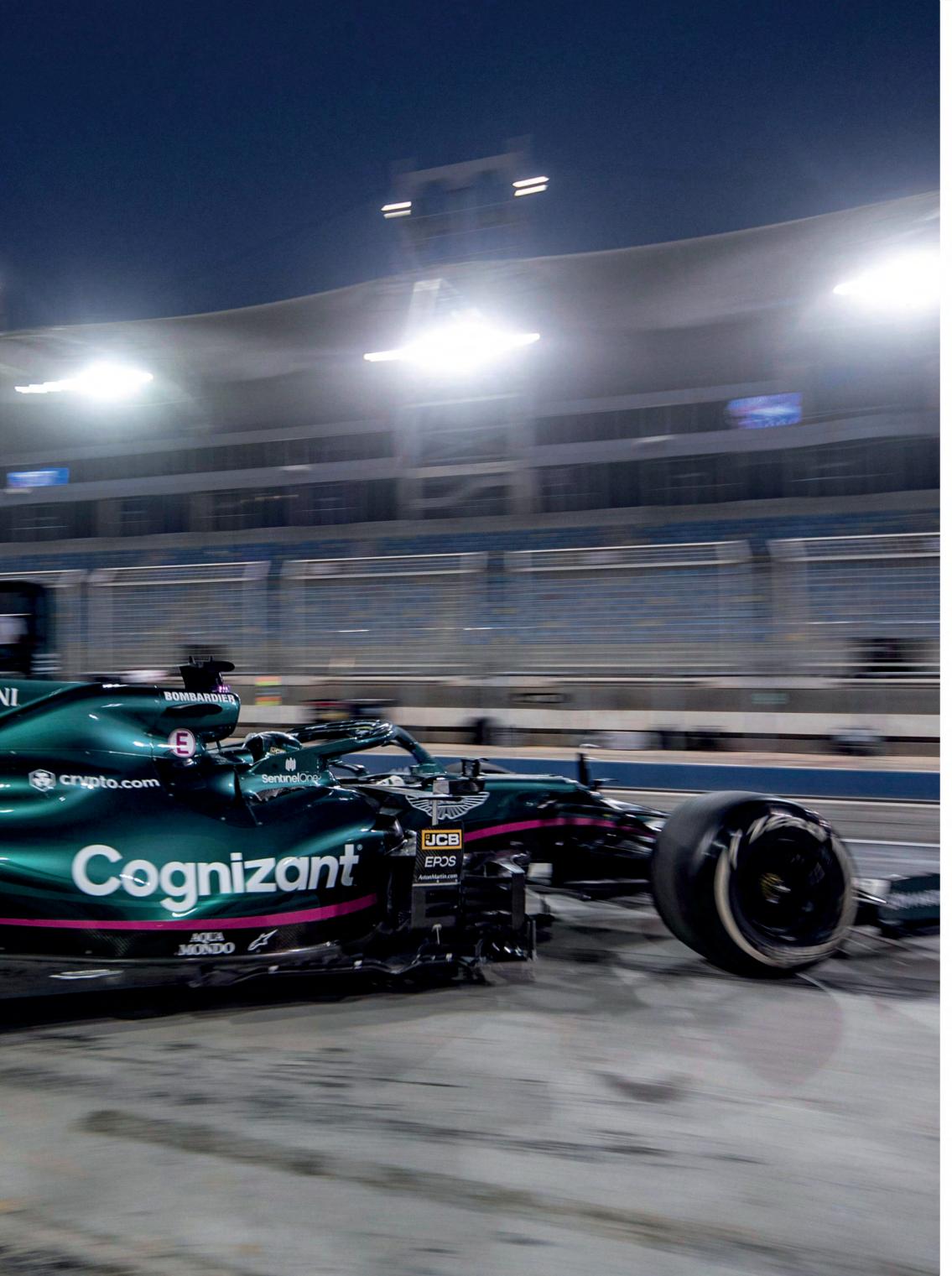


Photographer Glenn Dunbar

Where Sakhir, Bahrain When 5.57pm, Friday 12 March 2021

Details Canon EOS-1DX Mk!! 12-24mm lens, 1/80 @ F4











The early bird catches the champ

The on-track action wasn't due to kick off until later but, at nine o'clock on the first morning of the pre-season test, the drivers filed onto the grid to perform filming duties for the Formula 1 title sequence.

That meant pretty much every photographer in F1 was standing wherever they happened to be allowed to stand within view of what was going on - because you don't see drivers without their masks on very often. In fact I don't think I've seen Lewis without one for about a year.

This is a nice photographic study of the world champion and his latest haircut - he looked relaxed, happy, and ready to tear his opposition a new one again...

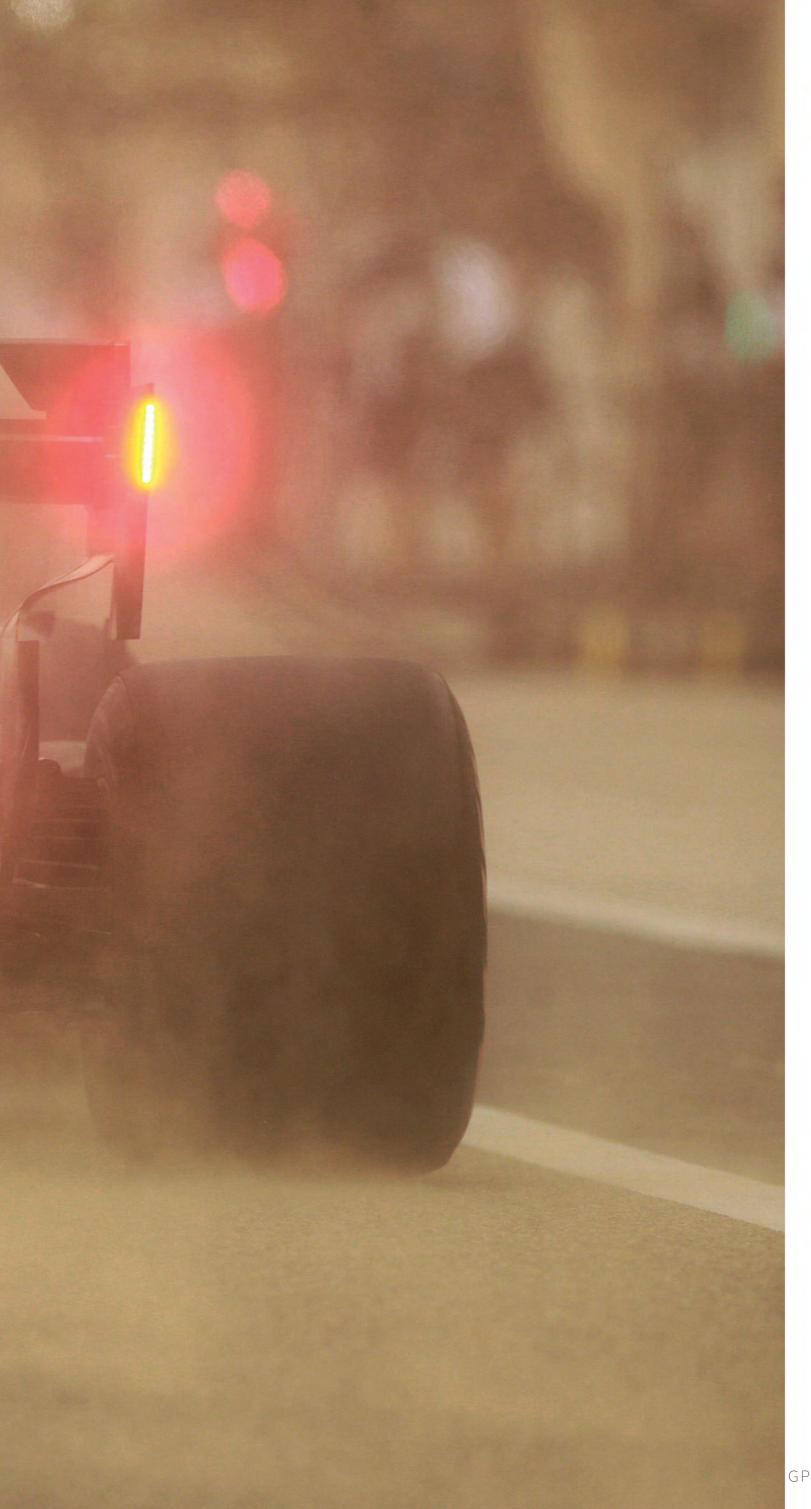


Photographer Steven Tee

Where Sakhir, Bahrain When 9.04am, Friday 12 March 2021

Details Canon EOS-1DX MkII 400mm lens, 1/800 @ F4.5







You either make dust or eat dust

Running on the first day of the pre-season test was disrupted by a pretty aggressive sandstorm in the afternoon. Although the teams were worried the sand and dust might be ingested into various orifices on the cars and cause damage, it didn't have much effect on laptimes because the track surface was specified with these conditions in mind.

As soon as I saw a car go up the pitlane with a plume of dust behind it I knew there was a shot in there. It looked almost like rallycross. So I headed to the pitwall and got the AlphaTauri going past, with the garages offering background texture, and using motor drive at least so one shot would have the light aglow.



Photographer Steven Tee

Where Sakhir, Bahrain When 3.34pm, Friday 12 March 2021

Details Canon EOS-1DX MkII 400mm lens, 1/1000 @ F4



Danny Ricc's head-up display

I'm shooting on behalf of McLaren again this year and so, with the F1 COVID-19 restrictions still in force, that entailed spending all three days of the Bahrain test in the McLaren garage.

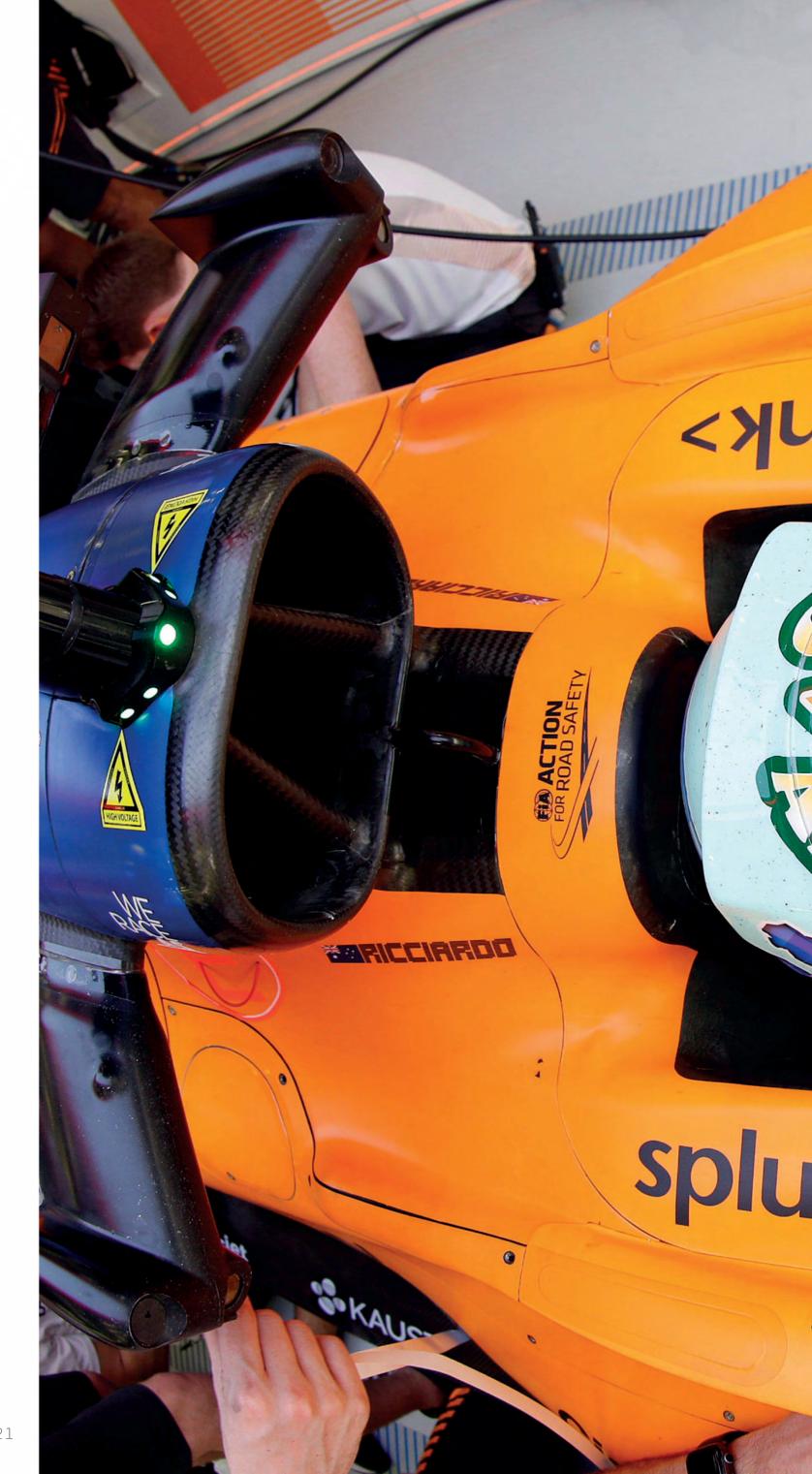
That meant plenty of opportunities to experiment and to get acquianted with McLaren's new driver. Daniel Ricciardo, as you might expect, was smiling throughout and seemed to be enjoying his new car. He's got a new crash helmet design this season with a really interesting graphical treatment, so I tried to get a perspective on it you won't see anywhere else. A fisheye lens held from above shows you both lid and cockpit.



PhotographerSteven Tee

Where Sakhir, Bahrain When 1.51pm, Friday 12 March 2021

Details Canon EOS-1DX MkII 8-15mm lens, 1/200 @ F5.6











A historic French connection

One of the major tech talking points from the pre-season test was Alpine's bulbous engine cover and air intake, which called to mind another historic French Formula 1 marque. It's very post-1976 Spanish Grand Prix Ligier JS5 (though I must confess I wasn't born when that car was in action).

I was out on track when the sandstorm hit after lunch, and all the cars scuttled off to their garages. At times like these you wonder if they're ever going to come out again but, eventually, Esteban Ocon headed out in his A521. He pumped in a load of laps and obligingly swept a load of sand off the racing line for those who followed.



Photographer Zak Mauger

Where Sakhir, Bahrain When 3.06pm, Friday 12 March 2021

Details Canon EOS-1DX MkII 600mm lens, 1/640 @ F5.6



WHY HAMILTON AND MERCEDES NEED TO TALK

Seven-time world champion Lewis Hamilton only agreed terms for another season at Mercedes within weeks of beginning his title defence – and both parties have a vested interest in this state of affairs not happening again. Team boss Toto Wolff has confirmed that Hamilton – whose one-year extension takes him to the end of 2021 – will get back around the negotiating table well before the end of this season.

In previous years both Wolff and Hamilton have been relatively happy to leave contract negotiations until after the outcome of the world championship is settled. This time, though, the process was complicated by the late finish to the 2020 season and both Hamilton and Wolff contracting COVID-19 in December and January. They say, too, that social distancing protocols precluded them from 'getting around the table' – but this didn't stop the likes of Carlos Sainz, Daniel Ricciardo and Sebastian Vettel arranging transfers elsewhere.

"We have agreed we want to pick up the discussions much earlier this year," said Wolff, "to avoid a situation like we had in 2020, to run out of time and be in the uncomfortable position that there is no time left before the beginning of the season.

"And that's also why we only did a one-year contract. In order to allow us to discuss the future in racing and outside of racing longer. And with the right amount of time. What we've decided is to discuss things much earlier this year, not at the end of the season."

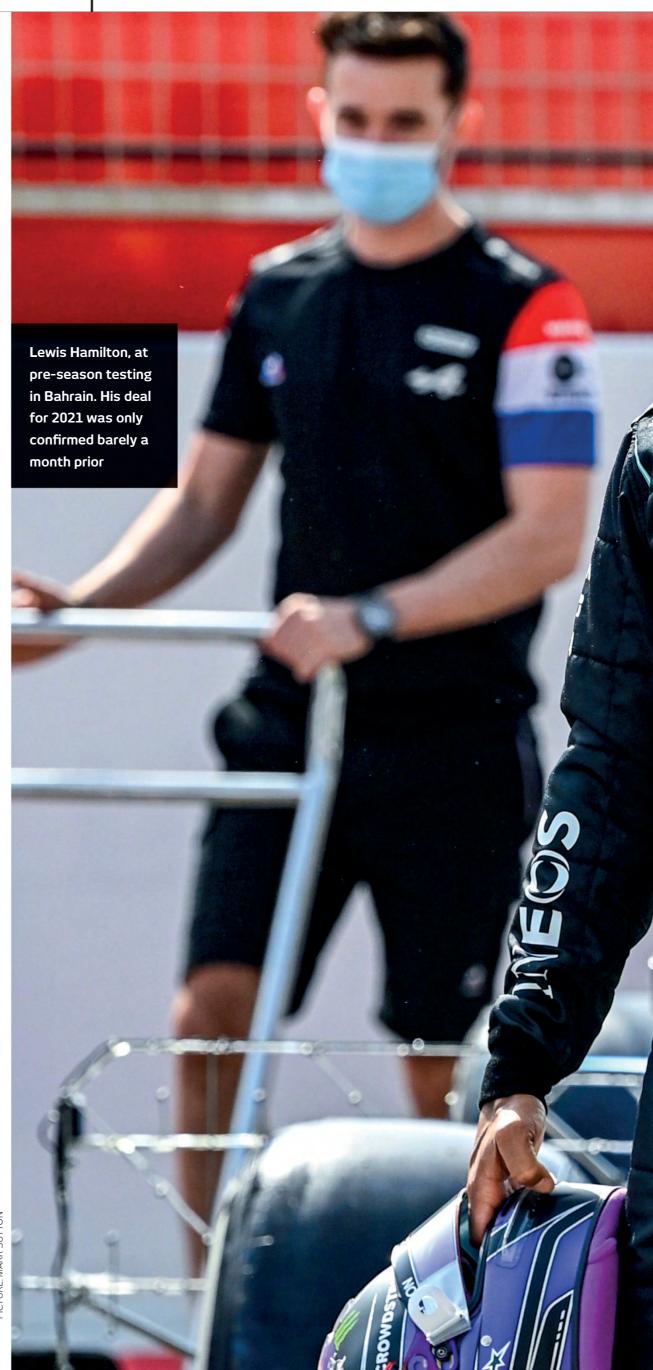
Hamilton's deal with Mercedes also includes a mutual commitment to found a charitable foundation to promote the uptake of STEM (Science, Technology, Engineering and Maths) subjects within ethnic minority groups. While this suggests the relationship between Hamilton and the team with which he has won six of his seven world titles remains strong, the short duration of his contract has prompted doubts to develop over his desire to carry on competing. But the world champion has dismissed this.

"I'm fully invested in this season and delivering," Hamilton said. "I still love what I do.

"I'm in the fortunate position where I don't have to commit to multiple years. I chose to have a one-year deal so I could see how the year goes, see where we are at midyear or towards the end of the year. But it doesn't mean I'm not committed. I'm still very committed to the sport."

And yet there have been signs of discombobulation within the Hamilton camp. In February he split with

SILLY SEASON STARTS NOW Hamilton to open 2022 contract talks soon



ENGINE FREEZE COMES EARLY

F1 Commission lets Red Bull have its way





long-time confidant and business associate Marc Hynes, who was CEO of Hamilton's Project 44 management company as well as his right-hand man at race weekends. Hynes was also due to run Hamilton's Extreme E off-road racing team.

After filming for a series of pre-season features for *Sky* Sports F1, co-commentator Martin Brundle described

"I'M IN THE **FORTUNATE POSITION** WHERE I DON'T HAVE TO COMMIT TO MULTIPLE YEARS. I CHOSE TO HAVE A ONE-YEAR DEAL SO I COULD **SEE HOW THE** YEAR GOES"

LEWIS HAMILTON

Hamilton's demeanour as "grumpy", and inferred from this that Hamilton "possibly wasn't superhappy with the way negotiations have worked out at Mercedes".

What this means for the coming months is that the annual 'silly season' of speculation over the driver merry-go-round will begin very early. All eyes will be on Hamilton's on-track performance and off-track conduct. But in the event he decides not to continue beyond 2021, who might replace him?

Wolff insists that Lewis's financial demands were "not the sticking point", and that when the next contract discussions begin "our first discussions are going to be with Valtteri [Bottas] and Lewis". Nevertheless, Mercedes has other drivers in its pool, of which George Russell is the most immediately available and qualified; Esteban Ocon could be extracted

from his Alpine placement given time, but it's understood his stock has slipped slightly. And speculation that Mercedes may make a play for Max Verstappen persists, though Wolff has understandably batted that away.

"Max is certainly an outstanding young driver who will be on everybody's radar in the future," said Wolff. "But as I said before, we're not flirting outside before we have a clear understanding with our two drivers."

That leaves Russell in pole position to slide into any vacancies which arise at Mercedes. And it means Wolff who recently committed to another three years as team principal, CEO and co-shareholder – holds the majority of the cards when negotiations begin.



RED BULL HAS ITS WAY ON ENGINE FREEZE

Red Bull will step up its commitment to F1 rather than feeling its way towards the exit after a landmark decision by the Formula 1 Commission, the body which presides over F1's sporting and technical regulations. In the wake of Honda's decision to withdraw from F1 as an engine supplier at the end of this season, Red Bull proposed that an engine-development freeze originally planned for 2023 should be brought forward to 2022.

Although it has been the subject of much pushing and pulling behind the scenes, the proposal finally received unanimous support at the Commission, a body in which all the teams as well as the FIA and the commercial rights holder are represented.

The engine freeze cleared the way for Red Bull to acquire the intellectual property for the Honda hybrid power unit programme and establish a new business line to manage ongoing production and maintenance. It's understood this will also enable Red Bull to redeploy engineering staff who might otherwise has been affected by the budget cap which is being introduced this season.

Significantly, no balance-of-performance mechanism has been written in to the regulations to enable lagging manufacturers to achieve convergence. Instead there is what amounts to a gentlemen's agreement between the manufacturers and the FIA to address inequalities.

The decision has implications for the rest of the grid as rival manufacturers realign their development plans to mitigate against the effects of the freeze. Renault engine



Red Bull will now take on Honda's hybrid engine programme after the engine freeze was brought forward

chief Remi Taffin confirmed that his organisation planned to fast-track developments originally planned for 2023 and make them production-ready in time for the beginning of the freeze. A Mercedes-style split turbo design is just one of these potential features.

Though the final details had yet to be agreed as this issue of GP Racing went to press, the F1 Commission also agreed to evaluate a different qualifying format at several grands prix this year. Canada, Italy and Brazil are all in the frame, while new

> F1 CEO Stefano Domenicali told the Daily Mail "Silverstone will definitely hold a sprint race". The initial proposals involved Friday's second practice session being replaced by a qualifying session which would determine the grid for a 100km race on Saturday, which would happen in place of the traditional qualifying session.

> Domenicali confirmed the plans involved points being awarded for the top eight positions in the 100km race, which would also determine the final grid positions for Sunday's grand prix. Crucially, to preserve "the peak of the event", there would be no podium ceremony after the 100km race.

Having seen other proposals to shake up the format (including various reverse-grid mechanisms) rebuffed, F1 has been careful to define the nomenclature of the new format. It's understood that the 100km race will be referred to as "Superqualifying" rather than a "Sprint Race" in order to avoid devaluing the grand prix itself – both in terms of the points awarded and the status of Sunday's victor as a grand prix winner.



Silverstone has been confirmed as the venue for one of several F1 sprint races in 2021, for which points will be awarded

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The 'Honeybadger' on his new life at McLaren



GEORGE RUSSELL

Staking his claim to a shot at F1's big time

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- > New Red Bull ace Yuki Tsunoda profiled
- > How was Bahrain for those drivers who swapped seats?
- > The history of Team Lotus, part 1







E-FUELS COULD BACK TO F1

Formula 1's roadmap towards net-zero carbon status by 2030 may yet tempt one of motor racing's most evocative names back to F1. Speaking to BBC Sport, Porsche Motorsport vice-president Fritz Enzinger said the company and its parent, the Volkswagen Group, might consider entering F1 as an engine supplier should certain conditions be met.

"Porsche and Volkswagen AG are observing the changing regulations in all relevant racing series around the world," said Enzinger. "This is also the case with regard to the emerging new engine and drivetrain regulation for F1 from 2025."

That is the year in which a new engine formula is expected to come into force as F1 works towards fulfilling its commitment to achieving net-zero carbon status in 2030. F1 has said the key objectives for this generation are "environmental sustainability and social and automotive relevance, fully sustainable fuel, creating a powerful and emotive power unit, and significant cost reduction". It also indicated that "attractiveness to new power unit manufacturers" was a significant target.

F1 has committed to introducing so-called 'e-fuels' from 2025. As outlined in the November 2019 issue of *GP Racing* by our technical columnist Pat Symonds, these carbon-neutral fuels can be synthetically produced (via processes which capture carbon from the atmosphere) or made from bio-mass, and can replace fossil fuels in internal combustion engines.

"It would be of great interest if aspects of sustainability – for instance, the implementation of e-fuels – play a role in this," said Enzinger. "Should these aspects be confirmed, we will evaluate them in detail and discuss further steps."

GP Racing understands that while some car manufacturers have committed to phasing out internal combustion engines by 2030, others still believe this form of power has a role – provided e-fuels can be brought to market cost-effectively. While electrification reduces emissions for the end user, electricity has to be generated and the industrial processes used to manufacture cars also require power. In February Porsche announced a pilot project in partnership with Siemens and three energy companies to produce e-fuels in Chile.



Porsche's last successful foray into F1 as an engine manufacturer was when it produced the TAG engines for McLaren from 1983-1987

"PORSCHE AND **VOLKSWAGEN AG ARE OBSERVING** THE CHANGING REGULATIONS IN ALL **RELEVANT RACING SERIES AROUND** THE WORLD"

FRITZ ENZINGER, PORSCHE MOTORSPORT



MURRAY WALKER 1923-2021

It was with great sadness that we learnt of the passing of Murray Walker, aged 97, just as this issue of GP Racing went to press. A legendary commentator, and not just on F1, Murray was also a long-time columnist for this magazine until his retirement. We will be paying a full tribute to the great man in our April issue.

MASTERMIND

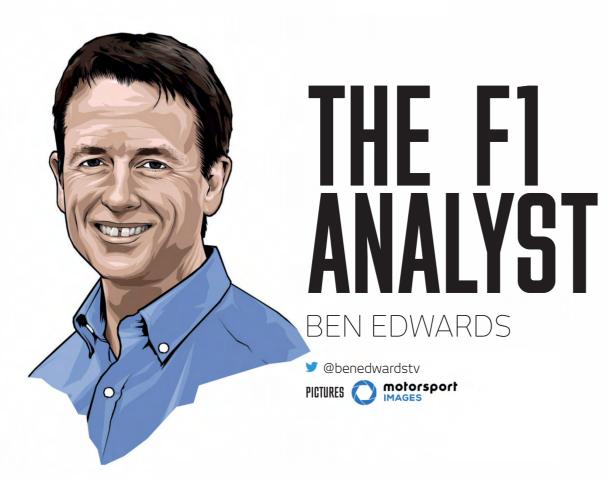
Your chosen specialised subject: the world's greatest motorsport

- Q1 Counting the A1 Ring and Red Bull Ring as one track, how many circuits has Kimi Räikkönen raced on in F1: 33, 38 or 40?
- Q2 Who will be the youngest driver on the F1 grid this season?
- 03 True or false: Sebastian Vettel has only won a single F1 race on home soil in Germany?
- Q4 What is the highest position Lance Stroll has qualified when he has finished on the podium?
- 05 In which season did Romain Grosjean achieve his highest championship position of sixth?
- Q6 In which year and at what circuit was the last world championship Formula 1 race to run over 100 or more laps?
- Q7 At which circuit and in what year did Fernando Alonso claim his first pole position in F1?
- Q8 Which team won more South African GPs at Kyalami: Williams, Brabham or Ferrari?
- Q9 Reg Parnell, Peter Whitehead and which other British driver managed a podium finish in the first three years of the world championship?
- Q10 How many races did Ralf Schumacher win in his 11 seasons in F1: 5, 6 or 7?



8 Ferrari (4) 9 Mike Hawthorn 10 6 at Watkins Glen (run over 108 laps) 7 Sepang, 2003 the Nürburgring 4 Eighth (twice) 5 2013 6 1970 US GP 1332 Yuki Tsunoda 3 True, the 2013 German GP a





of horsepower. Throttle response wasn't ideal, but Villeneuve loved it.

Leclerc is no doubt looking for history to be repeated. While there has been no overall change in the power unit rules for 2021, Ferrari has revamped the configuration that performed so dismally last year.

Revised cylinder head design and altered piston crowns aim to improve performance within the internal combustion engine, and changes have been made to the energy recovery system to enable more use of electrical power over the course of a lap.

These modifications have to show promise. For 2022 a completely new chassis will be created under heavily revised regulations that mark the dawn of a new era in F1. However, power unit rules stay the same, so if Ferrari fails to improve this current system then the chances of fighting for a title in the upcoming phase will be remote.

The pressure is on Enrico Gualtieri, leader of the power unit programme. A Ferrari man through and through, he first engaged with the team when completing his thesis at a university half an hour's drive from the Maranello factory. Enrico followed current team principal Mattia Binotto through the ranks on the engine side, becoming head of reliability soon after Binotto became head of

LECLERC CAN BE THE SPARK FOR FERRARI REVIVAL

The season-opening Bahrain Grand Prix will mark two years since Charles Leclerc rattled the F1 establishment with a stunning performance in just his second race with Ferrari. Leclerc dominated all three segments in qualifying and achieved his first pole position. Excessive wheelspin off the line cost him the advantage, but within six laps he was back in front and he controlled the race until a fuel injection problem dropped him to third.

But the Monaco youngster had set out his stall. With no intention of playing second fiddle to Sebastian Vettel, Leclerc ignored instructions to hold back from attacking his team-mate in the early stages and almost reaped a worthy reward.

That mindset continued throughout a competitive campaign in which Leclerc achieved back-to-back wins in Belgium and Italy, earned more pole positions than anyone else, and by year's end was seen as Ferrari's future. Soon afterwards, Vettel was given a season's notice.

Leclerc maintained his edge over Vettel in 2020, outqualifying him 13-4 and almost tripling Seb's

points tally, but the team was no longer at the sharp end of the grid. An unrevealed agreement between the FIA and Ferrari going into the campaign had a huge influence on the power unit's potential; frustration festered at virtually every event.

This was only the fourth time in 63 years that Ferrari failed to finish top five in the constructors' championship. In 1980 a lack of competitiveness emanated from both engine and chassis as reigning champion Jody Scheckter stayed at Ferrari but struggled to repeat the performances of 1979.

Jody was also usurped by his less experienced team-mate who scored three times as many points. Gilles Villeneuve refused to be downhearted by an aero package compromised by the shape of an outdated flat-12-cylinder engine. Villeneuve led briefly in Brazil and outqualified Scheckter 13-1.

Jody's motivation evaporated and he left F1 at the end of the season. Vettel feels he has more to give and has transferred to Aston Martin. But Leclerc is now in a similar position to Villeneuve some 40 years ago: being linked with a competent and capable new team-mate. Then it was Didier Pironi, now it is Carlos Sainz.

In 1981 Villeneuve and Pironi brought Ferrari back into the constructors' top five. Pironi scored the team's first points of the year but Villeneuve was the pacesetter and won in Monaco and Spain. Ferrari's chassis was not a huge improvement over the previous year's, but the engine was a revelation. Having caught up with turbocharged technology, the 1.5-litre V6 turbo delivered oodles

engine operations and then taking charge of the whole power unit project when Binotto became Ferrari's technical boss.

They are both going to be under intense scrutiny over these next two seasons. Gualtieri has to deliver horsepower immediately, while Ferrari's level of competitiveness in 2022 will reflect how Binotto has invested in people and technology through a period of three years.

Meanwhile Leclerc has his own areas of focus. Sainz is only the third driver Charles will have worked alongside in F1, after Marcus Ericsson at Sauber and then Vettel.

It is not the Villeneuve/Pironi combination, but there are similarities. Gilles was totally integrated into the Ferrari team when Pironi joined, but treated Didier as an equal and with total respect. Pironi's approach was highly professional, as is that of Sainz.

Villeneueve and Pironi became friends until a key disagreement at Imola in their second season changed everything, a step on the path to tragic consequences. The 1982 rollercoaster ended with Ferrari winning the constructors' championship, but devastated at the loss of Villeneuve at Zolder, then Pironi's careerending accident in Germany.

Perhaps history can be repeated – and re-written: a boost in engine power after a dismal year, promising results and a bonded alliance between drivers. All leading to a future under new rules where Ferrari plays a key role, but this time the drivers maintain a good relationship and milk the benefits of a new era.

PICTURES: STEVEN TEE; FEDERICO BASILE. ILLUSTRATION: BENJAMIN WACHENJE.

Leclerc overtakes team-mate Vettel in Bahrain in 2019 in defiance of instructions to hold back



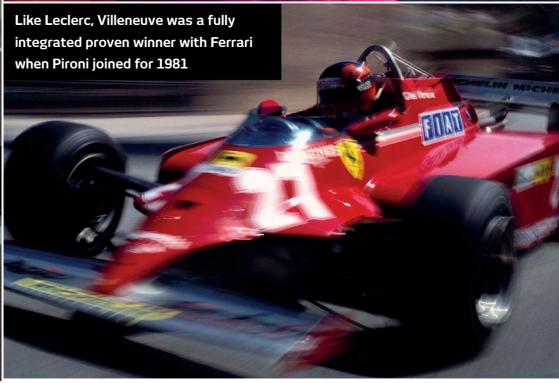
The combination of Didier Pironi (below, left) and Gilles Villeneuve helped Ferrari recover in 1981



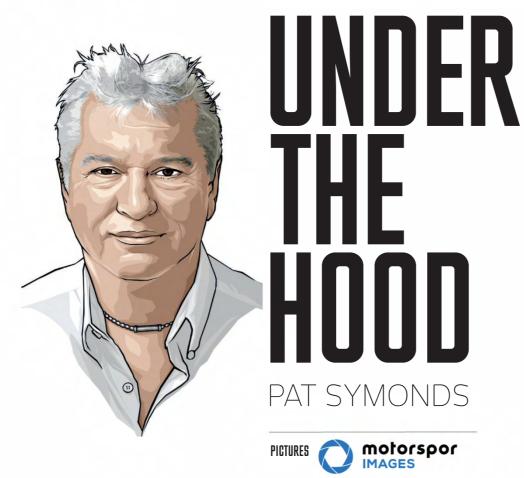
Carlos Sainz accelerated his Ferrari integration by testing a 2018 car at











mandating the position of the chassis and gearbox fixings. The reality is that the integration of chassis and power unit is so complex that such simplicity is almost worthless. This meant a system had to be introduced which would allow McLaren to make necessary changes to its chassis and, for the sake of equity, give a similar dispensation to all teams. A token system was introduced which allows teams to make limited changes to otherwise frozen areas.

While the desire was to keep aerodynamic development as a performance differentiator, there was also concern from Pirelli that the tyres in use, which were first introduced for the 2019 season, would exceed endurance limits if aerodynamic development was left

unchecked for a further year.

The fact that the tyres would be going into their third season of use was a result of the planned, more resilient, tyres for 2020 being rejected by the teams at the end of 2019. In addition, the pandemic halted all in-season testing during 2020, through which Pirelli would normally be developing tyres for the forthcoming campaign.

The aerodynamic group at F1 examined a number of ways to limit the additional downforce that the teams would find if unchecked. This was not an easy task, as it was necessary to introduce regulations that would not start a new spending war, and also determine changes that would not favour one design philosophy over another. This was particularly challenging, as some solutions definitely had less influence on high-rake designs than low rake, while others had the opposite effect.

LIMITING 2021 DEVELOPMENT WAS A DIFFICULT BUT ESSENTIAL MOVE

After last year's Australian Grand Prix was cancelled and the extent of the pandemic became more apparent, Formula 1's Ross Brawn asked me to look at how we might protect the teams from what was undoubtably going to be a significant shortfall in their income.

I put together some proposals which we discussed with the FIA. These were centred around delaying the new and significantly different car from 2021 to 2022, and freezing a large part of the design of the 2020 cars through to the end of 2021.

The thinking was that a significant amount of expenditure goes into small incremental improvements which are invisible to fans but, in the close competitive arena of the midfield, are necessary to gain advantage.

While limiting development, it was important not to lock in the competitive status quo – but most chassis performance is found in improved aerodynamics and tyre management, so it was felt freezing other parts of the car while leaving aerodynamics to develop as before would provide a solution with minimum compromise. In an ideal world the freeze would have been relatively simple to legislate for, but the fly in the ointment was

McLaren, which had long before announced its switch from Renault to Mercedes power for 2021.

After the current generation of power units was introduced in 2014, a somewhat naive attempt was made to make engines interchangeable by

Allowing aerodynamics to develop unchecked would have caused more tyre woe



PICTURES: MERCEDES; ANDY HONE; MARK SUTTON. ILLUSTRATION: BENJAMIN WACHENJE



Ultimately, a reduction in plan area of the floor was introduced which, together with simplification of the outer 100mm of the entire floor, achieved a reasonable reduction in downforce and should save money by eliminating some of the complex flow-control devices seen on the floor edges of the 2020 cars. A reduction in the height of the

diffuser fences further reduced downforce to bring it to a level that, once the teams have worked to recover the losses, will at least peg 2021 performance to that of 2020.

Ironically, in spite of the inability to mount a proper test campaign, Pirelli was able to run a more robust tyre during free practice sessions at the last couple of races of 2020, giving a further margin of safety to mitigate against unusual circumstances such as those that occurred at Silverstone last year – the circuit that tests the structural integrity of the tyre more than any other.

As a follow-up to various clarifications made last season to the rules governing control software, the main one of which was to eliminate the many engine modes used, a further restriction is introduced for 2021 which limits teams to only using five versions of software for chassis control, five for engine control and three for hybrid energy control over the course of the season. I don't anticipate this being particularly

GAINS - SOMETIMES MINUTE BUT NEVERTHELESS ADDITIVE TO A POINT OF SIGNIFICANCE 35

significant, but it is a step in the right direction for reinforcing actions to assist the budget cap.

This brings us to perhaps the most significant change of all – the introduction of a budget cap on most activities that could be construed as providing performance to the car. Set at \$145m for 2021, this will gradually reduce to \$135m by 2023.

This is a sea change in the way F1 will operate.



It must be appreciated that this cap has plenty of exceptions and is only aimed at the technical side of the operation. Even with this caveat there are teams that will still not approach this cap, but that is not to say they will not benefit from it.

F1 has for many years rewarded incremental gains – sometimes minute but nevertheless additive to a point of significance. Unfortunately, these gains and the attention to detail required to achieve them, come at great cost. It is financial restriction on this type of work that will curtail the performance of the richer teams and in so doing assist the less well-off teams to get closer to that level of performance.

It will not be transformative immediately. The top teams have a rich heritage and an enormous knowledge base to work from, but over the years – coupled with subtle changes, such as aerodynamic test restrictions that vary depending on championship position, and changes to the car design freedoms – we may look forward to closer competition throughout the field.





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Essential guide to the business of F1



STRAIGHT TALK

MARK GALLAGHER

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is representative of the highly experienced, senior-level Formula 1 manager whom team owners can bring in to run the sophisticated operations of a modern grand prix motor racing business.

The appointment of Capito adds a level of strength and depth to Williams' management board, such that the Grove outfit has gone straight from intensive care to being given a clean bill of health. The prognosis is good.

Capito's impressive CV includes managing motorsport programmes at Porsche, Sauber, Ford and Volkswagen, while his experience in everything from Paris-Dakar to World Rally Championship success, and Formula 1 to high-performance automotive programmes, shows skill and passion for the job.

The appointment of Jenson Button as a 'Senior Advisor' – a Swiss Army Knife role that makes him useful in a host of ways – confirms that Capito, Roberts & Co. are serious about accelerating Williams back to health on and off track.

In this new chapter of Formula 1, team owners can hire and fire according to their requirements. Team principals will have

> employment contracts, fixed term and open to renewal – or not – and the management structures are evolving to suit.

Thus, McLaren's Andreas Seidl might report to Zak Brown, but to all intents and purposes they are splitting the roles that the previous owner-founders once held. The same can be said of Roberts and Capito.

The demands of running a contemporary F1 team are such that it can be useful to split the operational leadership from the front-of-house role. It also gives shareholders the comfort of spreading the leadership challenge and risk a little more widely.

When we see how quickly Seidl turned McLaren's F1 fortunes around, albeit after a period during which Brown test drove other candidates, Williams' board will be hoping for a similar outcome – particularly once the cost cap and new regulations really bite in 2022.

The flip side of the hiring is the firing, and the replacement of Cyril Abiteboul with vastly experienced Moto GP boss Davide Brivio at Alpine shows how quickly the leadership turnstile can operate.

It's quickly going to become inadvisable to talk about having a transitional year for, well, more than a year...

With Christian Horner the veteran of team bosses, and Toto Wolff the only team principal to actually own part of the team he runs, 2021 bodes well for Formula 1. From front to back we have never had a more capable management line-up.

A NEW BREED OF BOSSES AT WILLIAMS

Among the unexpected impacts COVID-19 has wrought on Formula 1 is that we enter this season with the strongest line-up of professional team bosses in the championship's history.

For an industry so closely associated with speed, the pace of progression away from Formula 1's founding fathers has been glacial. For 40 years we have been held in thrall to that unique breed of team principal who founded, owned and ran their own team. Men who, as Eddie Jordan declared, made the final decisions because it was 'their name over the door.'

Sir Frank Williams' family's decision to sell to Dorilton Capital last August might have drawn this period in Formula 1's history to a close, but the latter part of the season felt like watching the end credits. It wasn't until mid-December that interim team principal Simon Roberts was confirmed in his permanent role, along with news that he would report to incoming CEO Jost Capito.

With 17 years as operations director and chief operating officer at McLaren behind him, Roberts



Simon Roberts took over as team principal at Williams following the team's sale and now reports to...



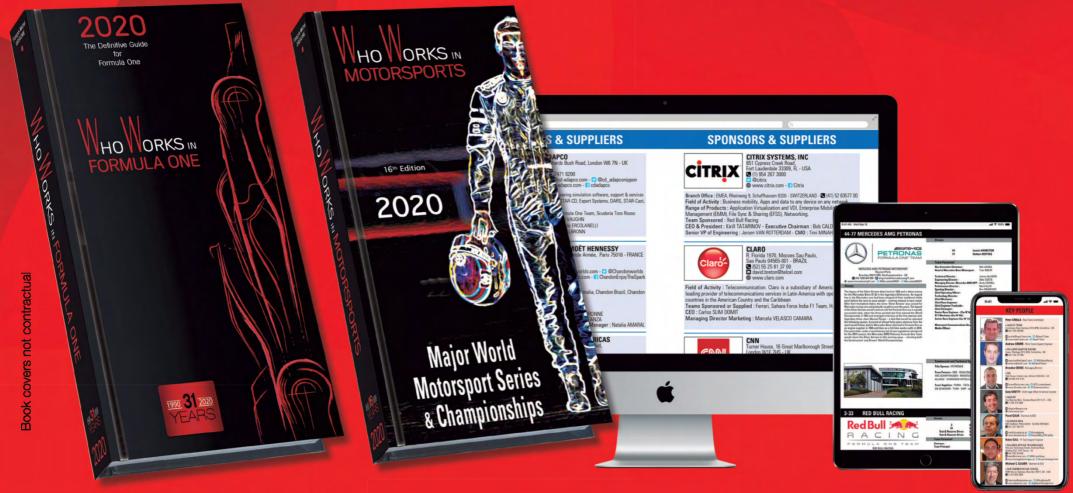
...new CEO Jost Capito, a man with a long pedigree in motorsport, including five months as McLaren's CEO in 2017



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CHAPTER 1

To mitigate the financial impact of the pandemic, Formula 1 has deferred the major rules reset originally planned for this season to 2022. But there's still plenty going on despite the so-called 'design freeze'.

- **1.1** 2021 AERO RULES
- 1.2 WHAT CHANGES, WHAT DOESN'T
- 1.3 HOW DOES THE NEW BUDGET CAP WORK?
- 1.4 PIRELLI'S MARIO ISOLA TALKS SHOP

THE CARS ARE NOT REALLY FROZEN

If you thought this would be a stopgap season before the new formula arrives in 2022, think again. There's going to be a frantic scramble to claw back performance lost to new aerodynamic restrictions – and it's all within the rules...

WORDS STUART CODLING

ILLUSTRATION PETER CROWTHER

PICTURES O MOTOCSPORT AND GIORGIO PIOLA

2021 SEASON PREVIEW | 1.1 THE AERO RULES



s the COVID-19 pandemic sank its teeth into the calendar and finances last year, F1's stakeholders quickly agreed a package of survival measures. As a number of teams reported financial stress, F1 and the

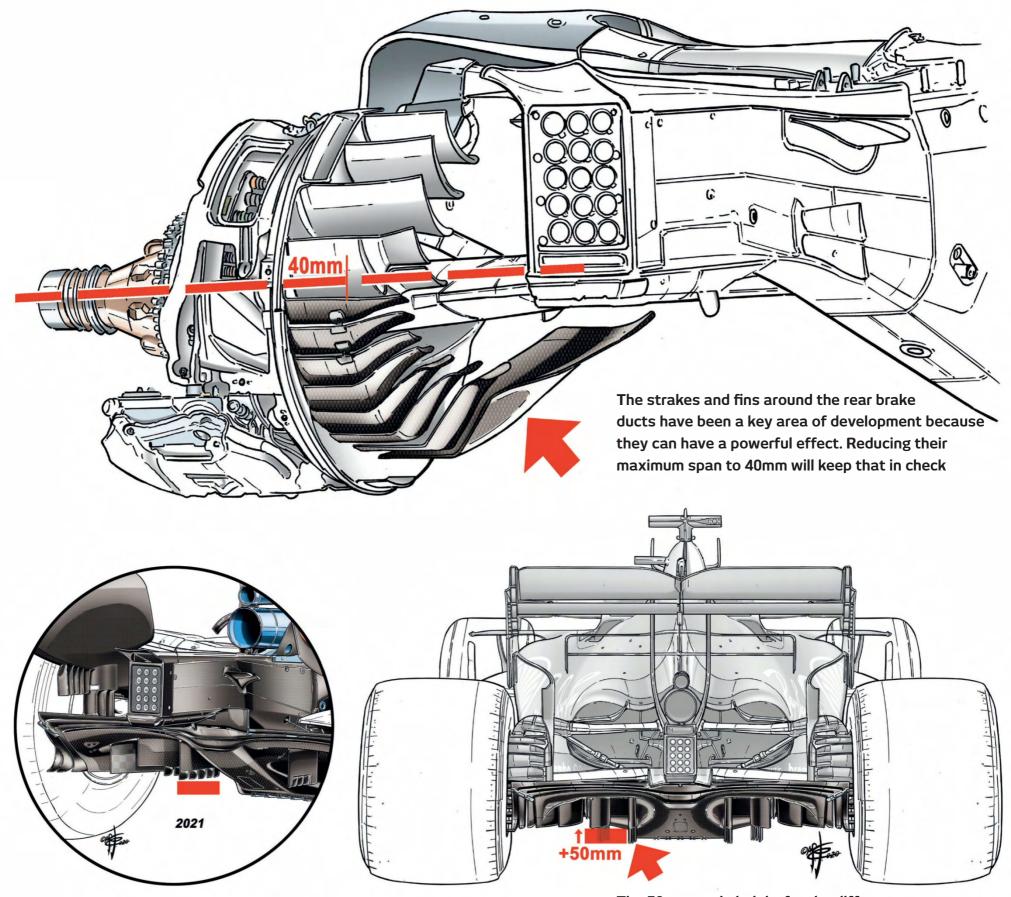
FIA deferred by 12 months the introduction of the all-new formula originally planned for 2021 – and announced curbs on development which would keep performance and expenditure in line.

But this doesn't amount to an all-out freeze – because that would be unfair, essentially 'baking

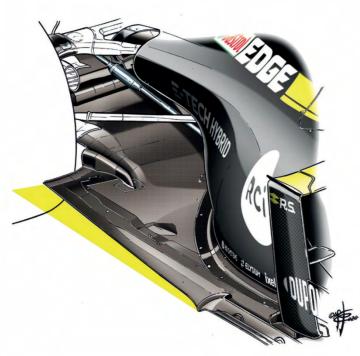
in' the existing pecking order and not giving the midfielders and tail-enders the opportunity to catch up. Preserving the competitive element while shielding the less wealthy teams from further difficulty has been a difficult balancing act – and one complicated by the tyre situation.

Pirelli has had to make its tyres more hardwearing to cope with increasing car performance, but the results haven't always satisfied the competitors. After testing the proposed 2020 compounds late in 2019 and receiving poor driver feedback, the teams unanimously rejected them. Carrying the 2019-spec tyres on into last season seemed like a good idea at the time, since it would enable Pirelli to focus fully on the shift to 18-inch wheels called for in the forthcoming technical reboot — but the chaotic scenes in the final laps of the British GP demonstrated the cars were on the edge of what the tyres could handle.

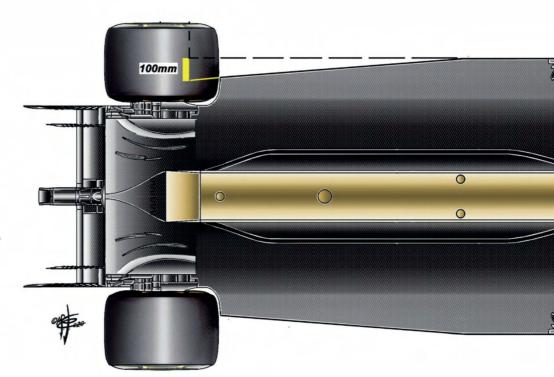
The solution has been to implement four key aerodynamic rule changes to reduce downforce — and the demands on the tyres — by 10%. While a long list of structural and mechanical areas of the cars have been 'frozen', subject to a token-based exemption system, aerodynamic development will be allowed, subject to carefully defined limits. By the end of 2021, car performance is expected to return to where it was at the end of 2020 but



The 50mm cut in height for the diffuser fences reduces the diffuser's ability to form an aerodynamic 'seal' with the ground



Cutting off an area of the floor – 100mm at its widest point, tapering from a point 1800mm from the front axle line – is expected to cost around a second a lap in performance. Slots and ridges which optimise airflow around the rear wheels are also banned



WINDTUNNEL USE LIMITS: 1 JANUARY - 30 JUNE

A new development handicap system aims to level the playing field by putting restrictions on the leading teams while giving backmarkers more opportunity to catch up. Until 30 June it's based on the 2020 constructors' championship, which means Mercedes loses out, while Williams stands to gain. But of course, having the extra resource is one thing, making the most of it quite another...

The new rules take the latest restrictions on aerodynamic research – number of windtunnel runs, tunnel 'on' time and hours of occupancy, plus Computational Fluid Dynamics processing capacity – and adjusts them by a percentage based on the 2020 finishing order. On 30 June it will reset to the championship order at that time. These rules divide the calendar year into six Aerodynamic Testing Periods (ATPs), the majority of which are eight weeks long. This is how the resource handicap works out in terms of allowances per ATP over the first three Periods, before they are recalculated:

| | ~2° | ge | | | , Ko | TGS Leuseo |
|--------------------------------------------------|-----------------|------|------|--------|--------|---------------|
| | Percenta | Runs | Wind | Occupa | New Al | Compute used |
| Mercedes | 90% | 288 | 72h | 360h | 1800 | 5,400,000 AUh |
| Red Bull | 92.5% | 296 | 74h | 370h | 1850 | 5,550,000 AUh |
| McLaren | 95% | 304 | 76h | 380h | 1900 | 5,700,000 AUh |
| Aston Martin | 97.5% | 312 | 78h | 390h | 1950 | 5,850,000 AUh |
| Alpine | 100% | 320 | 80h | 400h | 2000 | 6,000,000 AUh |
| Ferrari | 102.5% | 328 | 82h | 410h | 2050 | 6,150,000 AUh |
| AlphaTauri | 105% | 336 | 84h | 420h | 2100 | 6,300,000 AUh |
| Alfa Romeo | 107.5% | 344 | 86h | 430h | 2150 | 6,450,000 AUh |
| Haas | 110% | 352 | 88h | 440h | 2200 | 6,600,000 AUh |
| Williams | 112.5% | 360 | 90h | 450h | 2250 | 6,750,000 AUh |
| Handicap based on upon 2020 constructor position | | | | | | |



Key

Runs Defined as a windtunnel test which begins when air speed rises above 5m/s and ends when it falls below 5m/s

Wind on The amount of time in hours during the ATP where tunnel air speed exceeds 15m/s **Occupancy** Two shifts of windtunnel occupancy per calendar day, each beginning when air speed exceeds 5m/s for the first time and ending when air speed falls below 5m/s

RATG Restricted Aerodynamic Test Geometry – a 3D representation, physical or digital, of a car or sub-component

Compute used Computing resource allocated to a CFD solver run, measured in AUh (Allocation Unit hours). A single AUh is equivalent to a core hour on a physical CPU core; the FIA calculates this by multiplying the peak clock frequency of each CPU core in GigaHertz by the number of cores by the number of solver wall clock seconds elapsed during the run, then dividing that figure by 3600. Each competitor has to declare its computing resource to the FIA

hopefully with a tighter competitive spread.

"Aerodynamics are still not heavily controlled by tokens," says AlphaTauri technical director Jody Egginton. "I don't think the tokens are a differentiator on aerodynamic concept, and it's aero that's still king. Everyone will use their tokens for something, but I don't think that's the key differentiator to decide the order."

The aerodynamic rule changes may seem subtle but they could have far-reaching effects. The most visible difference will be the side and rear of the floor, which must now be flat – none of those vortex-generating slots are allowed – and taper by 100mm from a point 1800mm behind the front axle line. Between the rear wheels, the diffuser 'fences' must be 50mm shorter, and the width of the winglets on the rear brake ducts has been capped at 40mm. It may be too much to expect these changes to shake up the field hugely, but they've got a number of teams worried.

"It'll definitely affect some people more than others," says Mercedes chief designer John Owen. "But as to who those people will be, I think it's a bit of a lottery. Taking a hacksaw to a car is generally quite an unscientific approach and it's not going to be even across the teams. We know that we've seen a big reduction in performance..."

A new handicap system based on the 2020 constructors' championship will allow backmarker teams to deploy more aerodynamic research resources than the frontrunners. For several years now, F1's Sporting Regulations have included provisions which cap how many 'runs' can be performed in the windtunnel, and how long the tunnel can be on for – and the facility occupied. Computational Fluid Dynamics research is also restricted by time and computing power. This cap has been reduced but, under the new system, teams which are lagging will be permitted to use more resources than the leaders. While the differences are slight this year – just 2.5% per position (see table) – there's room to change as F1's rulemakers assess its impact.



WHAT YOU **CAN ALTER** FOR 2021

Formula 1's 'token' system enables teams to correct design blunders from last year - but they've got to choose carefully...

ast year the FIA issued a long list of components and chassis structures (see opposite page) whose designs were to be 'frozen' through 2021. Teams have up to two 'tokens' to spend on modifying certain components on the list and, depending on how significant the part is, modifying a single area can cost up to two tokens.

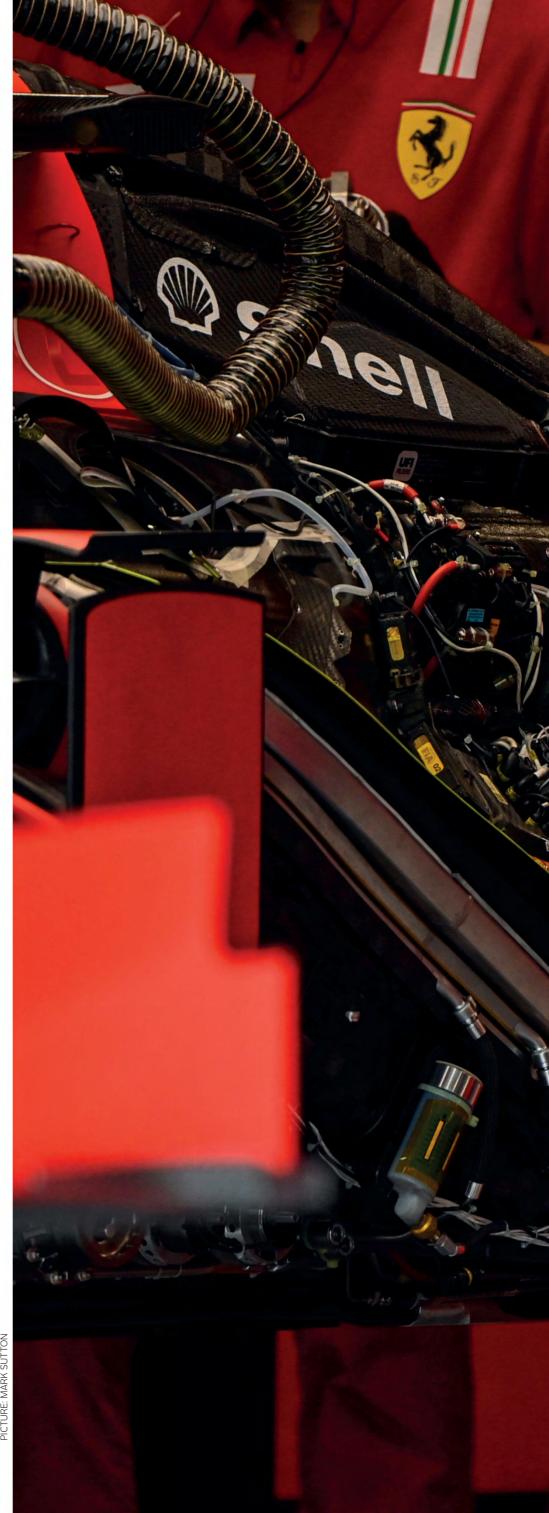
The token system is an imperfect but necessary compromise which gives a degree of leeway to teams with fundamental car problems to solve. Chief among these is McLaren, which is having to modify its car to accommodate Mercedes engines after migrating from Renault. While F1 power

units are supposed to have common mounting points where they meet the chassis, plumbing them in optimally is a more sophisticated business than bolting them to the back of the 'tub'. The cooling system, gearbox and rear suspension all have to be integrated.

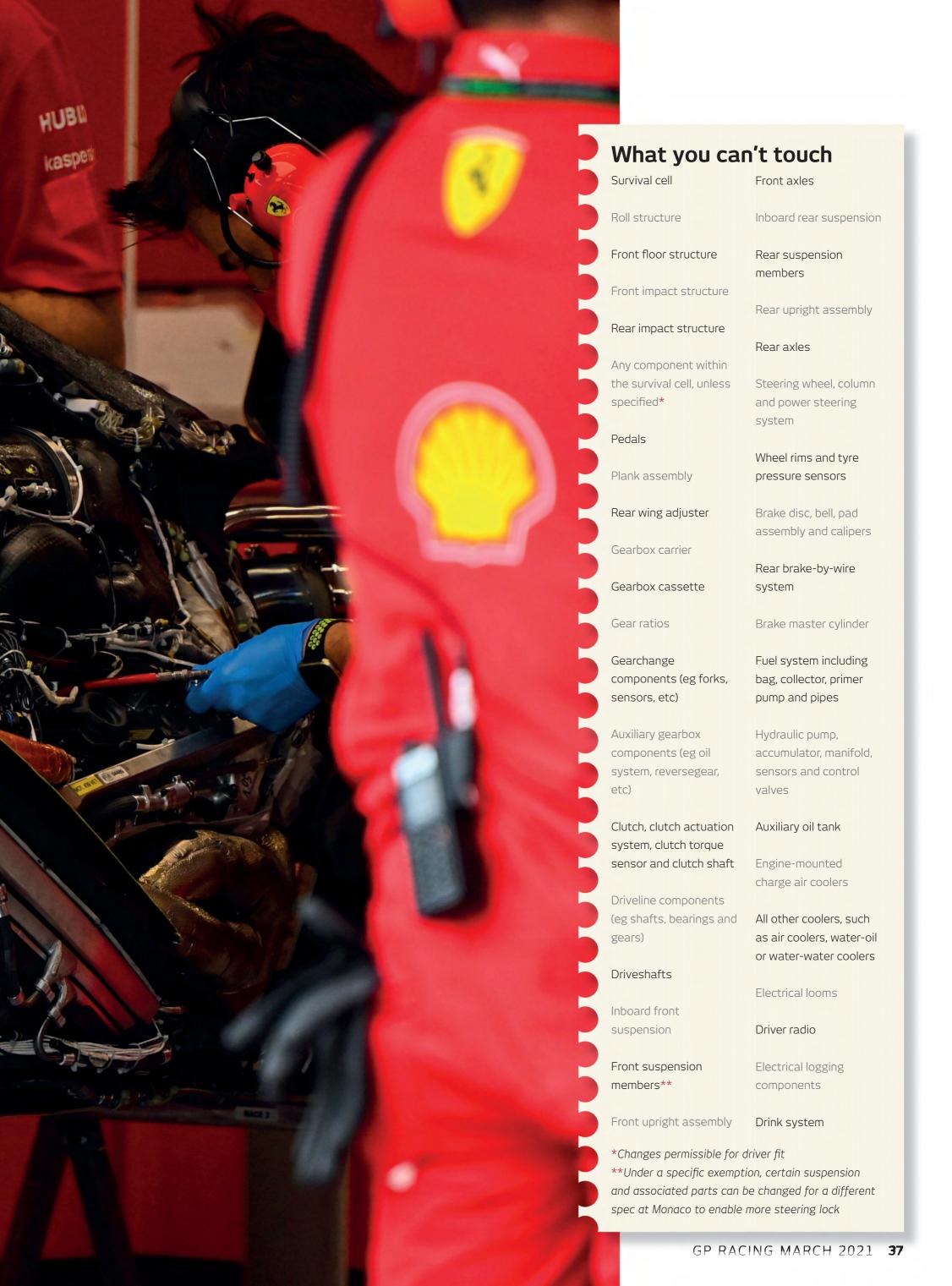
McLaren wasn't alone in needing to modify certain areas. F1 managing director Ross Brawn has alluded to an approach from an unnamed team which had "got the cooling wrong" on its car and "couldn't live with the cooling system for two years".

Ferrari, meanwhile, is pinning its hopes on remedying the SF1000's weak points by spending its token allocation on what is in effect a new rear end. Instability there was a key problem, particularly for the now-departed Sebastian Vettel, and Ferrari's aim is to integrate a new rear suspension design with its ongoing aerodynamic development programme. It's also bringing a revised power unit design, though that is outside the scope of the token system. Ferrari is taking advantage of rules which allow one change each to the engine itself, the fuel and lubricants system, the turbocharger and the MGU-H.

The flexibility built into the rules also applies to the teams which source permitted components from others, which is why Aston Martin is in effect getting a free upgrade to its 2020 car. Aston buys its suspension from Mercedes – so without having to spend a token it will benefit from the radical 'swept' rear wishbone configuration introduced on the W11 last season before the freeze came in.



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HOW DOES THE **NEW BUDGET CAP WORK?**

After over a decade of pushing and pulling, F1's teams agreed last year to an annual budget cap of \$175million. As the pandemic choked F1's finances the stakeholders then agreed to an even more dramatic figure – \$145 million for 2021, with a glidepath to \$140 million next year, then \$135million in 2023.

Broadly the cap on spending includes work on anything performance-related – salaries of engineering, design and manufacturing staff, along with materials and infrastructure, such as windtunnel and CFD operations. There are exclusions, including driver salaries, though these are likely to be subject to a separate cap. Also excluded are: marketing, human resources, travel and hotel costs, engine supply arrangements, superlicence costs, entry fees, non-F1 activities, employee bonuses, and the salaries of the three highest-paid personnel. It will be policed and audited by an independent body which can apply penalties from the mild (reprimands and fines) to the extreme (exclusion from the championship).

In practice the 2020 cap will be \$147.4 million because the original figure was based on 21 races per season. The Concorde Agreement permits up to 25 races and allows that baseline figure to be adjusted by \$1.2 million per race over or under 21; this season there will be 23.

For the highest-spending teams – Mercedes, Red Bull, Ferrari – the budget cap will require dramatic cuts which will come mainly through reducing headcount. That won't necessarily mean redundancies - Ferrari is redeploying staff to other areas of the business and even other teams.

WHO HAS TO SPEND LESS AND WHO CAN SPEND MORE (IF THEY'VE GOT IT)



Let's talk tyres with Pirelli's Mario Isola







What is different about the tyres for this year?

We have a new construction, both front and rear, designed to cope with the additional loads we expect. Last year it was decided to slightly change the technical regulations in order to reduce the downforce, because despite the

COVID-19 situation, teams were able to develop their cars while we had very limited opportunity to test. So, together with the FIA, we've

worked in two directions: one was the reduction of the downforce by around 10% with the trimming of the floor, the second was to develop a more resistant tyre.

We know that because the teams had the opportunity to work around the modifications last year, they have already regained some of this 10% before the start of the season. So the expectation is for additional downforce in the second half of 2021 and we needed some fine tuning for this. We've developed a more resistant construction with the opportunity to change also the front profile – because the front profile is affecting the car's aerodynamics. At the rear, the car floor is so close to the sidewall that it was almost impossible for us to modify the external profile

as we did on the front.

So it's not a completely different product in terms of driveability, it's more or less the same but with a balance that is a bit more towards understeer. Teams will have to rebalance the car setup a bit. We're not going to change the compounds so the level of grip, and the other characteristics are very similar to 2020.

Drivers say they want tyres that are more robust, and which they can push harder. What makes this so hard to achieve?

> It's a matter of deciding which is the best compromise, because if you remove degradation completely and have a tyre they can push hard from the start until the end of the race, you're not going to have different strategies or a different number of pitstops. And this is something the promoter wouldn't be happy about because the show would probably not be at the same level it is now.

So we have a target letter, a document summarising the different approaches or requests. We decided – all together – that reduction in overheating is priority one. In discussions with the drivers they said they would like much less overheating, because they need to push when they want to attack the driver



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2021 SEASON PREVIEW

Let's talk tyres

in front, they want to have less degradation, and they want to have wider working [temperature] ranges.

Overheating is something the new cars [coming in 2022] should help with because they're designed to be less disruptive to following cars. With the current car, if you're following another car closely you lose up to 50% downforce, which means you slide around and that overheats the tyre. The new concept aims for the downforce loss to be no more than 10%, which should help. We're also developing a new family of compounds which should be less prone to overheating and offer a wider working range.

But in terms of degradation, we agreed that we should keep a certain amount of degradation — a soft with more, a hard with less — and therefore to have different strategies. It's a question of finding the right compromise in terms of the laptime deltas between the compounds because we have 10 different teams with 10 different cars, each of which puts a different level of stress on the tyres.

Historically teams have been unwilling to co-operate on testing. Is this something that needs to change?

We're currently developing tyres for the 18-inch rims for next year but we have mule cars which are more representative of what is coming in 2022. In 2017, we had a situation where the new cars were supposed to be much quicker, with more downforce, so it was impossible to have a representative car.

We have less unpredictability



Isola with the 18-inch wheels that were introduced in Formula 2 last year. 30 days of testing in 2021 are planned before 18-inch rims are used in F1 in 2022

now. And this is important for us. There are some elements to be addressed but the cars – on paper – aren't going to be quicker. In terms of co-operation I cannot complain. We have only one team who may not make a mule car because of the budget, but I know most of the teams are willing to give us support.

You've got up to 30 test days this year to get ready for the change to 18-inch wheels. Is that enough?

For sure the pandemic isn't making our life easier. The situation is still fluid with a calendar which could change, so we agreed to have an extra five days of testing

to give us a bit more flexibility because nobody knows what is going to happen – or if we will be able to have 30 days of testing. But at least we have the possibility to plan.

What's important to remember is that we have five dry-weather compounds to develop, plus the intermediate and the wet, and we need to test on circuits with different characteristics. So when you divide 30 days into seven different products, that's maybe four days per product and it's not a lot.

The product that is going to start in 2022 isn't necessarily final. We want to be able to continue testing and fine tuning. For example, when we started with the 18-inch wheels in Formula 2 everybody was happy

with the product and with the results. But through using the product on-track we realised we could fine-tune the hard and medium compound, we ran some tests with F2 to upgrade these compounds,

and introduced new ones for the following year. This is probably what is going to happen in F1.

If the proposed 'sprint races' happen at three rounds this year, how will that affect which compounds you choose to bring?

This is a discussion we're going to have with the FIA. I don't see any need to increase the number of

tyres but it's not just a question of numbers, it's a matter of selection.

At the moment it's been agreed we're going to use the same system we implemented last year with a fixed allocation of two sets of hard, three sets of medium and eight sets of soft. I'm not sure this breakdown is the correct one if you add the sprint race instead of one free practice.

It'll be useful to run some simulations and understand with different locations what is going to happen, to be sure of having enough tyres of the right compounds. But I don't see any issue with the sprint races and I'm happy if they want to test this new idea at two or three races during the season.



CTURES: ANDY HONE; JOE PORTLO

"IN TERMS OF CO-OPERATION I CANNOT COMPLAIN. WE HAVE ONLY ONE TEAM WHO MAY NOT MAKE A MULE CAR BECAUSE OF THE BUDGET, BUT I KNOW MOST OF THE TEAMS ARE WILLING"

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CHAPTER 2

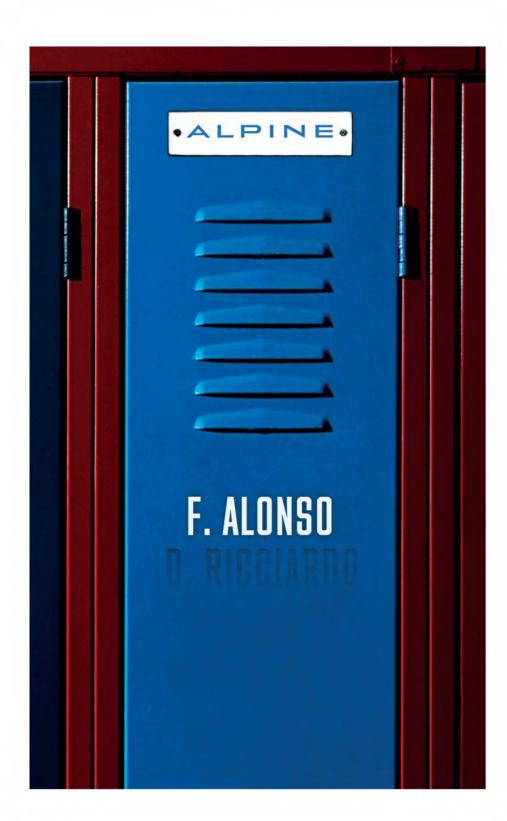
Some of Formula 1's biggest names are on the move for this season – and two famous ones are returning, though one has a new face attached...

- 2.1 TRADING PLACES: WHO'S IN, WHO'S OUT?
- 2.2 RETURN OF THE MACH: SCHUMACHER IN FI

2.1 TRADING PLACES

When the pandemic pushed Formula 1 into hiatus a year ago, the driver-market cogs carried on turning behind the scenes... culminating in three drivers spending a whole season racing for teams they knew they'd be leaving, and a certain double world champion readying himself for a dramatic comeback...

WORDS STUART CODLING PICTURES motorsport SHUTTERSTOCK



THE PRODIGAL RETURNS

When the driver-market

manoeuvrings triggered by Carlos Sainz's move from McLaren to Ferrari to replace Sebastian Vettel played out, it left Renault (now rebranded as Alpine) without a lead driver. Daniel Ricciardo spotted an opportunity to cash out before the start of his second season at Enstone and slot into Sainz's vacant seat at the end of it.

Given this was an outfit under pressure from above to justify its continued involvement in F1 – new faces at board level wondering why performance targets hadn't been met – it's hardly surprising Cyril Abiteboul, team principal at the time, opted for stardust to fill the void. Some might view Fernando Alonso as stunt casting, since he hasn't won a GP since 2013 and is about to celebrate his 40th birthday, but he remains fiercely competitive,

if also demanding and divisive.

Alonso hasn't spent his two years away from F1 sitting on the sofa; he's had another two tilts at the Indy 500, taken a second Le Mans 24 Hours win, won the World Endurance Championship and contested the Dakar Rally. Like a moth to a flame, he's found an F1 comeback irresistible, despite slamming the door on his way out - citing, amongst other factors, the 'predictability' of the racing.

While Alonso has publicly declared this season a watertreading exercise, and that he's channeling his main efforts towards the rules reset in 2022, there's been a changing of the management guard at his 'new' team since then. New Renault CEO Luca de Meo has pushed out the old Renault Sport hierarchy of Jerome Stoll and Cyril Abiteboul, installing former MotoGP

man Davide Brivio in a senior role. While it will take a while for the new management structure to bed in, there's much more at stake now for the rebranded Alpine team.

Alonso might have to bag more

results than he expected to this season, and he also had a disrupted build-up, having been knocked off his bike in Switzerland. Nobody can doubt his resilience, but even so a fractured jaw isn't ideal preparation. $\stackrel{\circ}{=}$



IMPROVED SERVICE WITH A SMILE

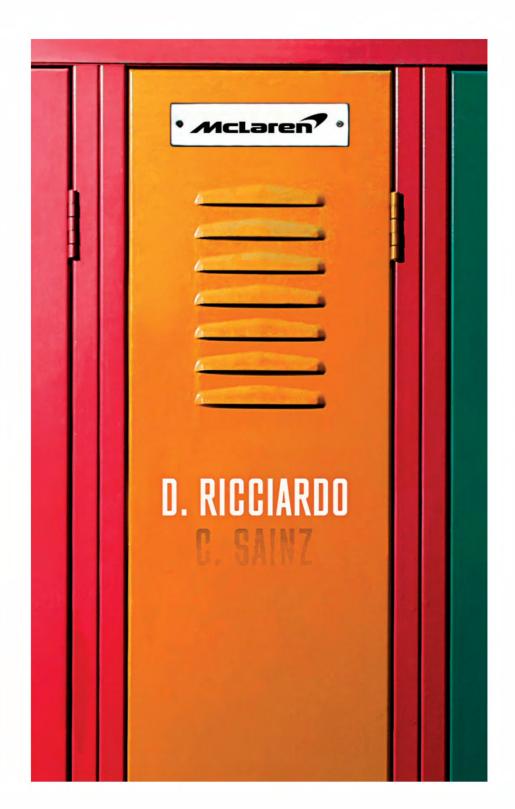
While Alonso has been circling for a new F1 opportunity for some time, the opening at Renault/Alpine came earlier than anticipated when Daniel Ricciardo decided his career would better be served by filling the vacancy left by Sainz. It was a big move for a driver whose stock has declined somewhat recently; after being shown the way at Red Bull by Max Verstappen, Ricciardo took a salary upgrade but a competitive downgrade moving to Renault. Seasoned observers concluded that he was beginning the process of cashing out, an impression bolstered over the course of a muted 2019.

Ricciardo put such thoughts to bed by announcing a risky move to McLaren – another team which has spent many years in the competitive doldrums – and then having a feisty final season with Renault. While he

arguably jumped to Renault a year too early, since that team needed another technical department shake-up to get the needle moving in the right direction, the timing of his switch to McLaren (on a three-year contract) seems right.

Although finances unexpectedly became an issue last year, McLaren's technical operation is now humming along nicely. Not only have the cars been better, the race team has rediscovered its mojo following the arrival of team principal Andreas Seidl. McLaren ended 2020 'best of the rest' behind Mercedes and Red Bull, and this is likely to continue now it has Mercedes power.

For Ricciardo this will be his first experience of any power unit other than Renault's in the hybrid era, and he says he's looking forward to it. But the opportunity to sample





Mercedes power wasn't what drew him here, he reckons.

"I feel like McLaren have done the right things - particularly the last few years - to set themselves up," he says. "In particular for these rule changes coming in 2022. I think

to turn the field around a little bit. Everything I've seen and known up until now really excites me about where McLaren is heading."

So much for a driver heading into cruise-and-collect mode...



LIVING EVERY F1 DRIVER'S DREAM

Cut from the same competitive cloth as his father, a rallying legend, Sainz was ultimately rejected by the Red Bull machine because he had the misfortune to share the same orbit as Max Verstappen. Carlos was never going to play dutiful number two and, since Max seemed the most immediately bright prospect at the time, Red Bull leaned towards the Dutchman and Sainz had to become the master of his own destiny.

Timing has been an issue more than once in Sainz's career. The stigma of being deemed a lesser talent than Verstappen followed him into a 'loan' period with Renault, where he didn't quite do enough – in admittedly second-class machinery – against Nico Hülkenberg to convince team boss Cyril Abiteboul to buy Sainz out of Red Bull.

Abiteboul decided throwing pots of money at Daniel Ricciardo instead would solve the team's issues.

In the slightly lower-pressure environment of a McLaren dragging itself out of the mire Sainz thrived and rebuilt his brand, to the extent of making Ferrari's shortlist when Maranello's management decided change was in order at the Scuderia. Certainly, Sainz has consistently had the upper hand over highly rated newcomer Lando Norris, but in *Rosso Corsa* Carlos faces greater challenges. Charles Leclerc for a start – but also the wider agendas at play within Ferrari, not to mention the constant sniping he can expect from the rabid Italian media if he doesn't perform immediately.

Perhaps Ferrari's bigwigs bought in to the social-media-fuelled 'bromance' between Sainz and Norris, feeling after two seasons of argy bargy between Vettel and Leclerc that more harmony in the garage would be a good thing. But the Sainz-Leclerc dynamic won't necessarily follow the same trajectory as Sainz-Norris. Leclerc is a much more intense character than Norris, as well as being an established grand prix winner.

Given another lap or two at Monza last year and we might have been saying the same about Sainz. Of all the drivers changing places this season, he faces the toughest test: to prove that he's not just keeping a seat warm while Ferrari evaluates a certain other son of a famous world champion...



ICTURES: FERRARI; ASTON MARTIN

PROVING TIME ALL OVER AGAIN

The nattering nabobs of the internet loudly proclaimed Sebastian Vettel's migration to Aston Martin, formerly Racing Point, as an ignoble retreat to a comfy salary while he works out where life will take him next. But while this was indubitably the only option other than retirement for a driver who says he has no interest in racing in any category other than F1, it is anything but a cushy gig.

This is a relationship which has to work to mutual advantage. Team owner Lawrence Stroll has serious ambitions, both for his team and the car marque he snapped up for a (relatively) bargain price this time last year. Stroll did not achieve his station in life by being some mug who would shower a has-been driver in riches for the privilege of attaching a big name to a humdrum enterprise. There are co-investors

to keep-sweet, yes, and a four-time champion in the fold will do that long-term project no harm. But there is more in play here.

Vettel's stock might be lower than it once was, and his claim to remain among F1's 'megas' is negated by his need to have a car with virtues tuned towards his driving style, but he still has much to give. It's understood his contract is modest in terms of rewards, heavily weighted towards results-based incentives, and he's taken an ambassadorial gig for the road car side. How this works out for one of F1's most publicity-shy drivers remains to be seen.

Stroll has an eye for a great deal and there's no doubt he's acquired three great properties at a knockdown rate: the team which started life as Jordan in 1991 has always had a knack of making a little go a long way, despite a string of





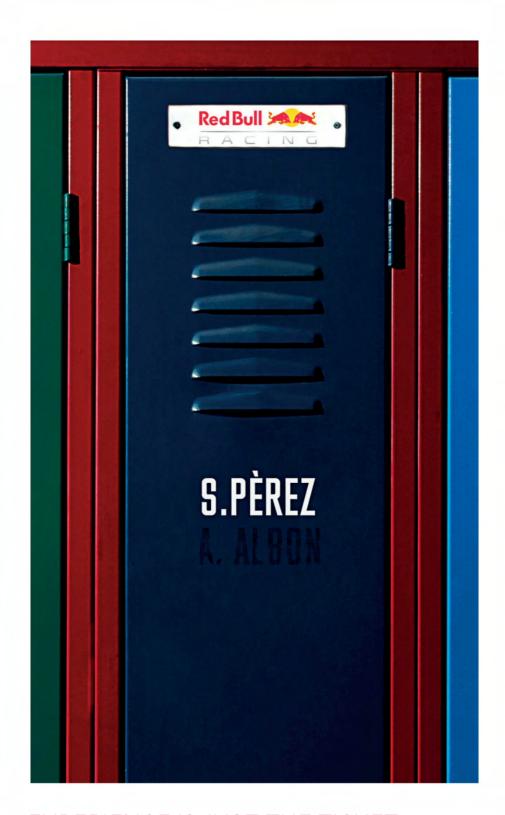
stingy owners; Aston Martin's road car brand cachet has survived a similarly colourful ownership and solvency history; and now Vettel, too, arrives in need of turnaround.

The team controversially 'cloned' the 2019 Mercedes last season,

in the hope of taking a shortcut to success, only to start throwing results away. It took all season to convert potential into victory.

Perhaps the greatest contribution Seb could make is to make winning seem easy, as it once did for him.

2021 SEASON PREVIEW | 2.1 WHO'S IN WHO'S OUT?



EXPERIENCE IS JUST THE TICKET

Sergio Pérez recently said that he's been "waiting all my career to get an opportunity with a top team", which may cause some McLaren fans to chafe. This time around, though, Pérez is arriving at a top squad which is unlikely to endure a precipitous fall from grace.

While Red Bull hasn't won a world championship since 2013, the year Pérez last made a theoretical entry into the big time, it seems to have overcome the issues which caused it to underperform for much of last year. Arguably, pretty much every season since 2014 Red Bull has begun the year with a half-baked technical package which has required a major development push, and last year it compounded that problem by adding upgrades which failed to work.

By season's end it had gained the necessary understanding to introduce a development step which did work — enough to become a proper challenger to Mercedes on pace. Since this season's cars are largely carry-over designs from last season with limited development, Pérez can be reasonably optimistic he isn't jumping into a lemon.

But he's also been hired to do a job. He's filling a void left by Red Bull's young driver programme being temporarily short of F1-qualified young talent, and team management being unconvinced by the more experienced drivers on the Red Bull books — namely Pierre Gasly, who remains on the fringes at AlphaTauri, and Alex Albon, who has in effect been benched and will instead race in the DTM this season.

Pérez's task is simple, and it will have been outlined to him in as few words as possible by Red Bull's 'driver advisor' Helmut Marko.



Pérez needs to do what Gasly and Albon couldn't: qualify and race closely enough to Max Verstappen to shut down Mercedes' tactical options and enable Max to challenge for race wins. Should Max become indisposed during races then Pérez needs to be in a position to win. But at all other times his presence must not threaten the orange-tinted equilibrium within Red Bull.

Seen and not heard? Kind of. But then again, Pérez has always liked to let his driving do the talking...





RETURN OF THE MARKETURN OF THE MARKETURN OF THE OF

As the son of one of the greatest drivers ever to have raced grand prix machinery, Mick Schumacher faces tremendous scrutiny as he arrives in Formula 1. This is a significant moment for F1 – and for Ferrari, which has put a great deal of resource into supporting him.

It's rare for a rookie to be accompanied by so much expectation but, while Schumacher might be joining a lower-midfield team (Haas), he has been the darling of junior formulae in recent years, winning titles in Formula 3 and Formula 2 with high-profile Ferrari backing. Schumacher is the third driver to have graduated to F1 via the Ferrari Driver Academy, following Jules Bianchi and Charles Leclerc.

They are tough acts to follow, only adding to the inevitable scrutiny that the son of Michael Schumacher would face upon making the step up to grand prix level. After defeating a bevy of other youngsters in F2 last year, some also supported by Ferrari, Schumacher has certainly earned his graduation. But are his F1 prospects as spectacular as those whose path – both in name and nurture – he is following?

One man who knows Schumacher well is René Rosin, manager of Prema Powerteam. They first crossed paths when Mick was 16 and taking part in a test, after a quiet first year in German Formula 4 with Van Amersfoort Racing in 2015. Schumacher would go on to remain with Prema for the next five years, making every step up the ladder under the wing of the Italian team.

"We always tried to treat him as a normal driver," Rosin tells *GP Racing*. "For us, it was not Schumacher: it was Mick. We tried to keep him very comfortable. If he just felt the pressure, it would be bad for him.

"For sure, a name like Schumacher on his shoulders is bringing pressure. All his life, it's with him, pressure. But he's able to manage it, and he grew up with that, and was able to manage it, even in the difficult moments."

Schumacher ran a dual F4 programme in 2016, finishing as runner-up in both the German and Italian championships (Rosin admits Prema "messed up" the Italian title fight after missing a

The Schumacher name is coming back to Formula 1... but does Mick have what it takes to reach the heights his father scaled?

WORDS LUKE SMITH
PICTURES MOTORSPORT

round) before moving up to F3 the following year. As future McLaren F1 driver Lando Norris swept to the title, Schumacher accrued just a single podium in a low-key maiden campaign.

A tendency to chase results through overdriving was apparent in the early phase of Schumacher's second season, prompting Rosin to have a chat.

"Already at the first race at Pau, in the first free practice, he was seven-tenths faster than anyone else – then of course he crashed," remembers Rosin. "The situation was a bit difficult. He was always fighting for top positions, but he never brought home the results that he needed.

"After Spa [where Schumacher scored his first

pole and win] everything got more relaxed. We talked, and said, 'Mick, just focus race by race, don't think about the championship itself. If you think about the championship, it will be harder."

As his mentality changed, so did the results. Schumacher won a further seven races, including a five-in-a-row sequence, to swing the championship in his favour. He would finish the year comfortably clear of Red Bull junior Dan Ticktum in the title fight, putting himself firmly on the radar for F1 teams.

It never seemed likely Schumacher would land anywhere but Ferrari, though. In January 2019, it was announced he had joined Ferrari's Young Driver Academy, heralding the return of the Schumacher name to Maranello ahead of his debut season in F2.

Rosin feels Schumacher's 2018 turnaround is evidence of his willingness to learn and, importantly, take criticism. "That's one of his great qualities: self-criticism, but he's also able to accept it," he says. "If you say something that, initially, he doesn't like, he takes a bit of time to digest it, but if he thinks that you are right, he will follow you 100%. He's not arrogant or always thinks to be right. He looks at himself with self-criticism. That is a great quality."

2021 SEASON PREVIEW | 2.2 MICK SCHUMACHER

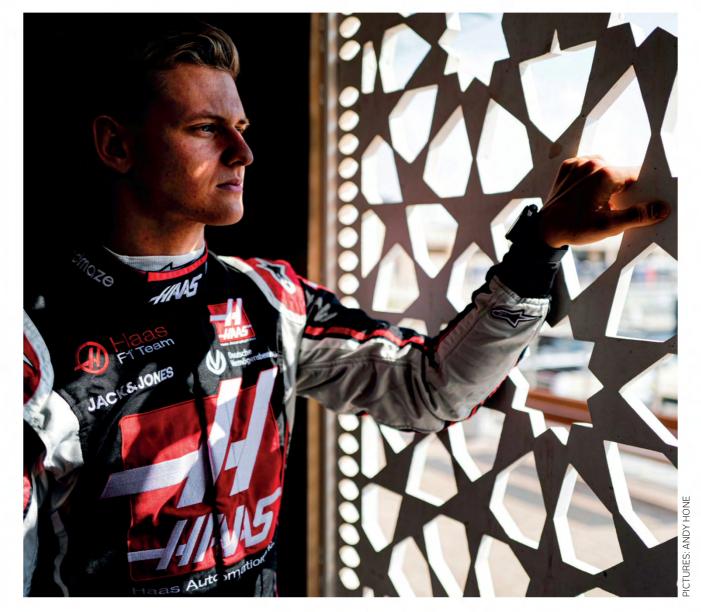
F1 drivers are hardly known for their modesty. Many exhibit such unshakeable belief in the majesty of their talents that they inevitably attribute poor results to the inadequacy of their machinery. A notable exception to that rule on the current grid is Leclerc, whose self-criticism is often noisy and unfiltered – notably in Turkey last year, when his team repeatedly had to ask him to cease flagellating himself. A mature degree of introspection is a trait that will serve Schumacher well in F1.

Inevitably Mick's surname brings an element of expectation and this doesn't come as news to him – he acknowledges he has been "under the spotlight since a very young age". But he's not bothered by it. "I've been able to get used to it," he says. "I would say that I'm able to deal with it pretty well. The results speak for themselves."

Certain elements of his father's career remain controversial and the younger Schumacher has already had to deal with trial by media. Mick's chief rival in F3 in 2018, Dan Ticktum, claimed he was "losing a battle as my last name is not Schumacher", suggesting there was more to Mick's mid-season turnaround than met the eye. In a string of frustrated posts and comments on Instagram, Ticktum said he felt "robbed of a championship" and called Schumacher's pace "interesting". He stopped short of calling Prema's car illegal, but claimed the team "may have a special engine map or something", and that many of his F3 rivals held similar beliefs.

Rosin found the saga "tough". "The comments were inappropriate," he says. "If somebody had a doubt about the legality of the car, the legality of the engine, they had all the rights to make all the protests they want. Nobody made a protest.

"They just mentioned that they wanted to protest, but in the end they ran away without



doing anything. Nothing was wrong. The title was because Mick and the team did an amazing job."

driv

It nevertheless left Schumacher with a point to prove upon his graduation to F2, but if he hoped to achieve Leclerc-esque levels of domination in his rookie season, he would be disappointed. His best result in a Saturday feature race was eighth and, although he took a lights-to-flag victory in the Hungary sprint event, overall the year hardly built a convincing case for a would-be F1 driver.

Rosin was happy with what he saw, though.

"The fact he had a not very high-performing team-mate in his first season [Sean Gelael] slowed down the progression a bit," Rosin reflects, before citing "bad luck" for missed results in Baku, Barcelona, Monaco and Paul Ricard, where various incidents – spins, badly-timed Safety Cars, and even a clash with Gelael – proved costly.

"But he never thought that it was over," Rosin

Schumacher was announced as a 2021 Haas driver in Bahrain last year, days before he went on to win the F2 championship at the final round

says, again hailing Schumacher's work ethic and resilience. "He would just continue working. We would just continue working together very hard to make sure that we bounced back in 2020."

Schumacher's knack for second-season success in both F4 and F3 translated to F2. While he won just two races and averaged seventh in qualifying last year, Schumacher regularly fought his way to the front in races. He recognises himself it was "definitely the consistency" which paved the way to his title victory ahead of Callum Ilott and Yuki Tsunoda, clinched at the Sakhir outer loop finale.

It was not a result that ensured Mick's F1 graduation, however, for this had already been announced a few days earlier. A deal had been in the works for some time with Haas, supposedly ensured by a top-three finish in the championship, but the title win gave greater legitimacy to his move up.

"If you bring a championship title on your CV into F1, it's always great," says Schumacher. "I have one in F3 and have one in F2. F3 was considered one of the top championships to be in, and it was good to be able to win those titles with great competition. The better the competition, the more you develop as a driver, and I think that's everything I will carry through to F1."

Schumacher's new boss, Guenther Steiner, feels the F2 title was a "big statement" which will provide a platform from which to build.



"IF YOU BRING A
CHAMPIONSHIP TITLE
ON YOUR CV INTO
F1, IT'S ALWAYS
GREAT. I HAVE ONE
IN F3 AND HAVE
ONE IN F2"

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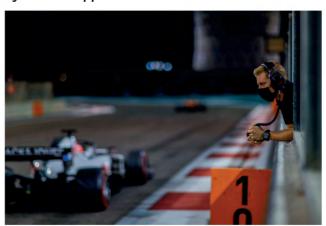
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Schumacher managed a free practice run with Haas in Abu Dhabi last season and also kept an eye on the opposition when out of the car





"IT'S MAINLY JUST UNDERSTANDING YOUR GOALS, AND SETTING YOUR GOALS **ACCORDINGLY TO WHAT YOU** THINK IS POSSIBLE"

"Coming in as champion will give him that initial confidence, when he maybe is struggling in F1 because everything is new," Steiner says. "He can always go back and say he was the F2 champion. All these things help when coming to F1."

Confidence is a quality Schumacher may need in his rookie season. Haas endured a miserable 2020 campaign, scoring a paltry three points. Steiner has already made clear that 2021 is a "transition" year for the team, which has opted for minimal development of its car in favour of focusing on the 2022 regulation changes. While there are growing ties with Ferrari through the creation of a 'Haas hub' at Maranello, Schumacher and new team-mate Nikita Mazepin - also a rookie, meaning there's no prior F1 experience to tap into across the garage – are facing a year stuck in the 'Class C' battle.

Again, though, Schumacher shows maturity in understanding he can only play the hand he is dealt. "It's mainly just understanding your goals, and setting your goals accordingly to what you think is possible," he says. "It is really going to be about managing our expectations and being open-minded on every aspect.

"If you say OK, Q2 is our goal, maybe it is hard to reach, but if we reach it, then it's like a win for us. So I'll take it as that to not only observe

ourselves, but also to show to the others that we'll always keep fighting and give our best."

That may sound like a string of racing driver clichés but Rosin has worked with the likes of Leclerc, Lance Stroll, Esteban Ocon and Pierre Gasly at Prema, and says industriousness is a key Schumacher virtue.

"He's a hard worker," Rosin says. "Until he understands everything, and gets everything to the maximum, he'll continue working. He's never somebody that leaves things behind. He needs just to continue working as much as he's done in the past, and not rest on what he has done. I'm sure he will never do that, knowing him.

"With all of the Ferrari support behind him and all of the Haas support, he will have a great season. Of course it will be a learning season, but I'm sure that he will do great stuff in Formula 1."

The Ferrari support is especially valuable for Schumacher; he calls it an "emotional bond". Many of the figures who played a key role in his father's success are still with the team, adding an extra layer of significance to Mick's performances. These individuals have revelled in Schumacher's demonstration runs in his father's title-winning F2004 car over the past two years, seeing it as a valuable link between Ferrari's past and future.

But modern-day F1 demands more from drivers

than a good backstory. The likes of Norris, George Russell and even Leclerc have become prolific on social media, interacting with their fans and showing off their personalities online. Thus far Schumacher has, either by accident or design, generally engaged in a limited or corporate way, which could be construed as shyness or that he is perhaps being overprotected. Many fans still want to know just who Mick Schumacher is, beyond being Michael's son. Still, this presents an opportunity for Ferrari and Haas to build that interest into popularity by letting Schumacher find his voice – and Haas desperately needs some good driver PR after Mazepin's off-track conduct caused a stink on social media.

2021 will be a learning year for Schumacher, and one in which it will be difficult to emulate the impact Leclerc made, securing a graduation to Ferrari after just a single season. But the Scuderia's F1 chief, Mattia Binotto, is conscious of the difference between the two.

"Compared to Charles, Charles normally is very fast on the very first day," says Binotto. "I think that Mick, the way he has developed himself, he is learning a lot in the first season and eventually even the start of the second. Then he becomes strong in the second half of the second season.

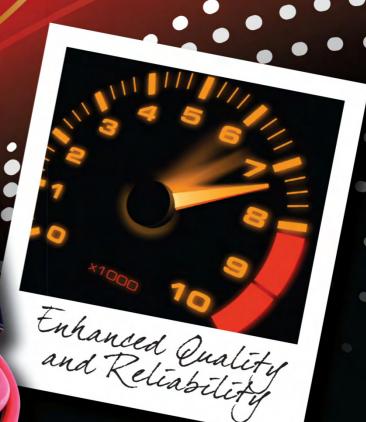
"That's why I think two seasons will be important for him [in F1]. But already in the second [year], I'm expecting to see progress compared to the first one."

Binotto's comments ease the pressure on Schumacher for 2021, but it places a greater onus on how he fares in 2022. It's already shaping up to be a make-or-break year.

If Schumacher can maintain his habit of building momentum and excelling in his second year, and if Haas regains its competitiveness to coincide with that, the timing could be perfect for Mick not only to prove himself to F1, but even to stake a claim to be a big part of Ferrari's F1 future. 🙃 **10** Year Guarantee

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CHAPTER 3

There's more going on this season than just a few new paint jobs. Even Mercedes has undergone changes behind the scenes, while elsewhere new owners are making their presence felt.

- FROM RACING POINT TO ASTON MARTIN
- 3.1A ASTON MARTIN'S F1 PAST
- 3.2 RENAULT BECOMES ALPINE
- 3.3 FERRARI'S RECOVERY ROADMAP
- 3.4 INEOS'S MERCEDES STAKE
- 3.5 McLAREN REUNITES WITH MERCEDES
- 3.6 RED BULL AND HONDA
- **3.7** WILLIAMS 2.0

3.1 ALL CHANGE N THE MIDFIELD

There's no lack of ambition in F1 at the moment as Ferrari chases a competitive comeback, Red Bull becomes an engine manufacturer in its own right and Aston Martin returns – aiming for championship glory in five years...

WORDS ANDREW BENSON

PICTURES ASTON MARTIN & SHUTTERSTOCK

Lawrence Stroll is a man with a plan, as well as a mountain of ambition to match the size of his bulging bank account.

The 61-year-old Canadian made himself a billionaire with investments in the fashion world, and now he is set upon becoming a success in F1.

Stroll has loved F1 for decades and has been a key behind-the-scenes influencer since the 1990s. He's preferred to operate under the radar, but becoming a team owner when he saved Force India from administration in 2018 raised his profile. Now he takes another step into the spotlight by renaming the team he called Racing Point after one of the world's iconic motoring brands, Aston Martin.

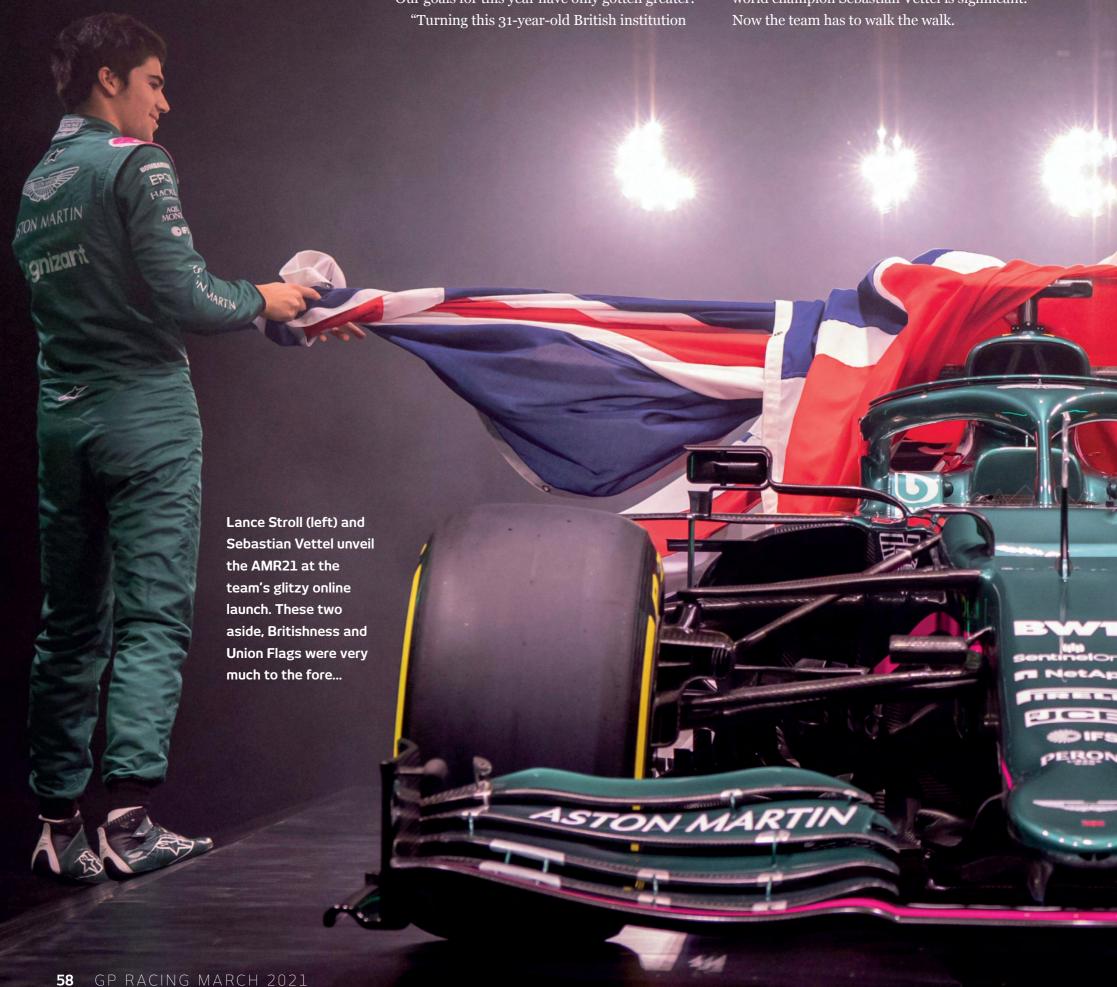
"My aims with this, like the other businesses I've owned, are to win," he says, in a rare interview. "The first step of winning was kind of what we accomplished with the team last year. Our goals for this year have only gotten greater. into Aston Martin is really transformative in a motivational manner. I saw the guys putting up the Aston Martin sign (at the factory) and taking down the Racing Point one. There were tears.

"It's kind of like we've found another gear now and it has raised everyone's level of enthusiasm and excitement. And we all know that boils down to lap time one way, shape or form or another."

The new name above the door has raised expectations, too. From a team battling in the upper midfield, notwithstanding Sergio Pérez's maiden win in Bahrain last December, Stroll's investment and the responsibility of a famous name mean the performance level of 2020 will now be considered the minimum starting point.

And as a statement of intent, signing four-time world champion Sebastian Vettel is significant.

Now the team has to walk the walk.



HOW ASTON CAME BACK TO FI

For a man who has been a fan of F1 since the days of Gilles Villeneuve, and who has an extensive classic car collection, Stroll appears to have come to team ownership late. It can look from the outside as if a self-made billionaire has bought an F1 team as a vehicle for his son's career – 22-year-old Lance is one of the team's drivers – but Stroll says that for a long time he had "never thought about owning an F1 team".

He was a shareholder in Team Lotus, he says, in the early 1990s, but other than that he says he always agreed with the famous old F1 adage. In his words: "How do you become a millionaire? Start with a billion and buy an F1 team."

Stroll says his decisions to buy Racing Point,

and then to take control of Aston Martin, and finally bring the two together, were based on cold, hard business logic, even if there was a bit of romance mixed in.

When US group Liberty Media bought F1 in early 2017, Formula 1 chairman Chase Carey explained his business plan to Stroll, an acquaintance of many years. The idea was to grow F1 as a business from \$1.5bn to \$2.5bn within five to seven years, by making the racing more competitive through the imposition of a budget cap. The field would also be limited to 10 teams.

The effect, Stroll believes, will be to turn F1 teams into franchises, in the manner of NFL or NBA teams, and to make them profitable businesses whose value will increase.

He says: "So based on FOM, based on what the team was already doing with only 400 people and only a \$90m budget – so a third or a quarter of some of the other teams and still finishing fourth – I said: "That's a hell of a group of guys.' What's any business about? People. So, I bought it as a business investment that I believe over the next five or 10 years will be way over a billion in valuation, based on all the other sports.

"By the way, if the team wouldn't have been fourth two or three years in a row, and it was a team struggling in 10th with no chance, I would have had no interest."

Stroll says he has "always thought Aston Martin was one of the greatest brands in the world" and he has owned "many" of their cars. He first approached the company's owners in 2018 when he bought Racing Point. At that time, Aston's deal with Red Bull to sponsor its F1 team and build the Valkyrie hypercar precluded an investment. But that changed in 2019, when the brand ran into financial difficulties and its owners decided on a rights issue, at the same time as the Red Bull deal was coming to an end.

"I did my due diligence and realised the potential was enormous," Stroll says.

Stroll believes that with his new chief executive officer Tobias Moers, head-hunted from AMG, in place, and plans to expand the range, he can double Aston's production to about 10,000 cars a year – about the same as Ferrari – and leave financial concerns well behind.

"Only then I said: 'I own this F1 team and the best way to market Aston Martin is through owning its own F1 team," Stroll adds. "So that's when the whole picture became clear. The two together make magic."



Creating a positive image for Aston Martin means the F1 team being a success, and Stroll says he is determined to push on from 2020.

A close commercial relationship with Mercedes – too close, many of their rivals would say – led to Racing Point's most successful season last year. The car was cloned from a 2019 Mercedes – an exercise that, according to the FIA, went too far in copying the world champions' rear brake ducts, one of the 'listed parts' teams have to design themselves. Racing Point was handed a 15-point deduction and fined €400,000.

But while the process was controversial, it was certainly effective. On balance, Racing Point had the third fastest car on the grid and missed out on that position in the constructors' championship only through a combination of that penalty, a more complete performance from McLaren, and the Racing Point drivers – Sergio Pérez and Lance Stroll – missing a total of three races with coronavirus, plus some bad luck.



Stroll defends the design approach to 2020, emphasising following the champions' low-rake aerodynamic philosophy made sense given the team was buying a gearbox and rear suspension from Mercedes. Stroll insists "the biggest game changer for us was to go from 400 to 500 people".

"In addition," Stroll adds, "I gave them an extra £50m of budget that they didn't have the year before. And the biggest contribution we had from Mercedes was that we began to use their wind tunnel. It was better than the wind tunnel we were using in Germany, the Toyota one."

Stroll believes the introduction of the budget cap from 2021 will play into his hands, as the big teams have to reduce in headcount towards where Aston already is. Aston Martin remains a customer team to some degree – it still buys a number of parts from Mercedes, including the gearbox and its hydraulics, and permitted suspension components. But Stroll says he asked his senior managers whether this would stand in the way of success and they insisted it would not.

"I challenged Otmar [Szafnauer, the team principal] and [technical director] Andy Green, on that before Christmas," Stroll says. "I said, 'We have the new rules coming in for 2022. We are here to win. That's why I'm here. It's why we're all here. But I have the ability to give us the resources we need to win – what would we do, if anything, differently in order to become world champions?'

"And Andy said, 'My initial answer is I don't think I would change a whole lot."

The thinking is that aerodynamics will remain the key differentiator under the new 2022 rules.

Stroll adds: "He [Green] said: 'I believe we have the best tool in being able to be in the Mercedes wind tunnel.' I said: 'I'll build our own.' He said: 'It will take us years and we're not going to make it any better. And with the rules they're not allowed to use theirs for the amount of time anyway, so it doesn't make sense because of the limited times we are allowed to run, which are being reduced year by year. It is going to become more CFD and less wind tunnels.'

"He said: 'Then it's about people, having the best CFD guys, the best aerodynamicists. And of the 100 people we have added to the company, I'd say about 65% of them are in that area.'

"In 2022," Stroll continues, "the cars are going to be remarkably the same [as each other]. The big differentiations today you won't see in 2022 – good thing, bad thing, I'm not commenting; but they are going to be remarkably similar. So, it is going to be about your aero department, [and] of course things like reliability. But we are not going to get a better power unit, I don't believe,

than we get from Mercedes, I don't think we need to go back to designing and building our own gearboxes; it is a dinosaur thing of the past.

"So, in the new factory we're going to have 100% capability to build every single part inhouse. That's a game-changer, because currently we contract a lot of it out because of the size of our facilities. We're putting everything in place."

THE DRIVER LINE-UP

The signing of Vettel is a calculated part of this ambition. The German's reputation has been tarnished by his performances over the past four years at Ferrari, but Stroll believes a new environment, where he is loved and wanted, will bring out the best in Vettel and that his mere presence will strengthen the team.

"One of the ways we are going to be world champions is to get my guys to think and act like world champions," Stroll explains. "And how you do that is you bring a four-time world champion into the team. I think he is going to take the team in a direction of leading us to where ultimately we want to be. So, I am not concerned. I know Sebastian well, and I have 100% confidence and belief he will do a fantastic job with us. He is more



"ONE OF THE WAYS WE ARE GOING TO BE WORLD CHAMPIONS IS TO GET MY GUYS TO THINK AND ACT LIKE WORLD CHAMPIONS



motivated than he has ever been."

Stroll is equally frank about his ambitions for his son. "To be world champion," he says.

Stroll Jr has had some strong results – not least his pole and leading half the race in Turkey last year – but not many believe he has consistently demonstrated he is the stuff of which champions are made. Nevertheless, Lawrence believes Lance has been "extremely impressive – I think at 21 he did an incredible job. Last year demonstrated he has the ability to perform very well."

MORE WINS THE TARGET

Confidence is not in short supply. But having taken a team that has outperformed its budget in the last few years and furnished it with better resources, a new factory in the offing, and rules that ought to bring the big teams back towards them, Stroll sees good reason for his belief.

Ambitious Stroll certainly is; naive he is not.

"F1 is a process that takes years to be successful, it is not an overnight," Stroll says. "But no business is built overnight. This will be the same. I want to continue where we finished last year, only stronger. We had several podiums; we had a win. I'd like to have several more



podiums and another win or two.

"Being very realistic, start knocking on the door for second, and with these new rule changes in 2022, which are all meant to bring the field closer together – at least that's the intention, we will see if it's the reality – then we'll be more mature, we'll be a full-grown team, we'll be in our new factory. So, step-by-step fighting for more and more wins. And I think it's very realistic."

Andrew Benson is BBC Sport's chief F1 writer

THE FIRST TIME AROUND

Aston Martin's only previous foray into Formula 1 was a short-lived and unsuccessful affair, but it could have been so different...

WORDS NIGEL ROEBUCK
PICTURES Motorsport



you could say that
Jack made the right

decision!" said a laconic Roy Salvadori of Brabham's opting to stay where he was for the 1959 grand prix season.

Both had driven for John Cooper the year before and also competed in sportscars with the Aston Martin team. When it was decided that Aston would enter F1, team manager Reg Parnell was keen to keep them on board: both men agreed terms and shook hands on the deal.

Brabham, though, had misgivings. To this point, Coventry-Climax had built nothing bigger than a 2.2-litre engine, putting Cooper – and Lotus – at a disadvantage to such as Ferrari, Vanwall and BRM, who had the full 2.5-litres permitted by the regulations. For 1959, though, there was to be a 2.5 from Climax,

Salvadori at the 1959 British GP when he finished sixth despite sitting a pool of fuel in the DBR4 and Brabham suspected rightly that this – in the only rear-engined car of the moment – would be the thing to have. His arm didn't need much twisting, and when Esso came up with extra funding to keep him at Cooper, it didn't need twisting at all.

"Jack and I talked about it," said Salvadori, "and I said I thought he was probably right about the Climax 2.5, but I felt we'd committed ourselves to Aston. Jack, though, said he was definitely driving for Cooper, and thought I should do the same: 'I'm going to ring Parnell to tell him – so you think it over...'. I did, and although the happiest years of my career had been with Astons, I tried hard to get out of the agreement, but Reg said, 'I've heard from Jack... Roy, you wouldn't do that to me, would you?' By the end of the conversation, I was still with them - and Brabham went on to win the next two world championships!"

Salvadori wasted those seasons on a car outdated even before its debut.







For several years grand prix racing had been in the mind of Aston Martin's owner, David Brown, and in fact a lash-up single-seater had been built for Parnell to use in New Zealand in 1956. The following year a true F1 car was built, and tested by Tony Brooks, but the company's focus remained on sportscar racing – in particular Le Mans, which it had never won – and throughout 1958 the F1 car sat in a corner of the workshop, a sheet over it.

"If we'd raced it in 1958, it might have been very good," said Ted Cutting, its designer, "but we didn't have the money or manpower to do both sportscars and F1. Brown's obsession was winning Le Mans. We were optimistic we could do it that year – but in the event we didn't."

For 1959, therefore, there was a new plan. Aston Martin would not abandon its dream of winning Le Mans with the DBR1, but that would be the year's only sportscar race: focus would otherwise switch to the DBR4 F1 car, which made its first appearance in May in the Daily Express Trophy at Silverstone.

A gorgeous-looking thing it was, too, reminiscent of Maserati's iconic 250F – but therein lay the problem, for already the 250F was obsolete. That said, the Aston's debut – while flattering to deceive – was unarguably impressive:

Salvadori qualified third, and ran a very competitive race, at one point battling with Brabham for the lead. In the end Roy finished second, while the other Aston of Carroll Shelby ran fourth until retiring just before the flag.

"In testing I'd found it fabulous to drive," said Salvadori. "Perfectly balanced, drifted beautifully (halcyon days!), and had better brakes than anything else. But the engine – a 2.5-litre version of the 3-litre in the sportscars – was definitely short of power."

There was another problem, too, which caused Shelby's retirement at Silverstone, and was never properly solved. The smaller engine was designed to rev higher – and that caused endless bearing failures, accounting for both cars in the team's GP debut at Zandvoort.

Aston Martin raced only spasmodically in F1 in 1959, and there's no doubt that development was hampered by the company going back on its decision to limit sportscar competition to Le Mans. Under pressure from the Sebring organisers, a DBR1 was sent to the 12 Hours, and then Stirling persuaded the management to run a car at the Nürburgring 1000kms.

This was to rank among his legendary drives. Partnered by journeyman Jack Fairman, Stirling The last F1 race Aston entered was the 1960 British GP with Salvadori (above) and Maurice Trintignant



Salvadori stuck with Aston Martin when it ventured into F1, despite having second thoughts

was in the car for 41 of the 44 laps
– more than twice the length of the
German GP – and single-handedly
defeated a three-car Ferrari team.
When Salvadori and Shelby then
won Le Mans, achieving the Holy
Grail, there existed a shot at winning
the World Sportscar Championship,
and three cars were entered for
the Tourist Trophy at Goodwood.
Another brilliant drive by Moss won
both race and title.

In the meantime, though, the F1 programme was floundering. Although Salvadori qualified second for the British GP at Aintree, he finished only sixth after an uncomfortable afternoon. "We hadn't run the cars on full tanks in practice, and as soon as the race started fuel began seeping into the

cockpit. Both Carroll and I came in early, thinking the tank had split, but we were told to carry on. I was sitting in a pool of fuel, which was a bit worrying – but I carried on because the car was going really well. After a spin I finished sixth."

That would be the best grand prix finish Aston Martin ever achieved. In Portugal and Italy the cars were neither on the pace nor reliable, and that was it for 1959.

The following year came the revised, lighter, DBR5 – but by now only Ferrari was still using a frontengined car. Worse, the introduction of Lucas fuel injection reduced power slightly, and the adoption of independent rear suspension, rather than de Dion, had a disastrous effect on handling, previously its strong suit. The long-suffering Salvadori remained on board, partnered now by Maurice Trintignant.

Aston Martin would only start the British GP in 1960, and after that race it was decided to call it a day. John Wyer, the team's general manager, reckoned that in hindsight it had been a fatal decision to concentrate on sportscar racing in 1958, and to delay the introduction of the F1 car by a year. Like Salvadori, he believed that in 1958 the DBR4 could have won races.

"It was a good car simply overtaken by events," said Wyer.
"By the time it appeared, in 1959, everything front-engined was out of date, and we didn't accept that early enough. In mid-1960 I discussed it with David Brown, and we agreed that if we wanted to get anywhere we had to start from scratch with a rear-engined car. At that point we decided to scrap the project."

Like anyone of my generation, to me the name of Aston Martin – like Jaguar – always meant sportscar racing, in particular Le Mans.

Somehow neither marque sat well in F1, but now, 61 years on, the renaming of Racing Point (née Jordan/Midland/Spyker/Force India) brings Aston Martin back – albeit with a Mercedes engine. Sebastian Vettel, late of Ferrari, will hope things go rather better this time.

"DEVELOPMENT WAS HAMPERED BY THE COMPANY GOING BACK ON ITS DECISION TO LIMIT SPORTSCAR COMPETITION TO LE MANS"



ALPINE'S 'RENAULUTION'

There's more to the rebranding of Renault's F1 team than just a corporate marketing exercise...

WORDS MARK GALLAGHER PICTURES ALPINE

Renault Group's F1 team heads into a season hoping that it will mark the dawn of a new era, one in which the sun lies just over the horizon.

Not for the first time the company has spoken of a 'transitional year' – the catch-all excuse for a team which knows that genuine success remains beyond its grasp.

The last six months have been turbulent, but from this Renault has emerged with a plan; one based on new faces, a new structure and a full rebranding as Alpine F1.

Laurent Rossi becomes CEO of the newly minted Alpine business unit, with Suzuki's world championship-winning MotoGP boss Davide Brivio appointed as Race Director of Alpine F1. Out has gone Jérôme Stoll, President of Renault Sport, and F1 team principal Cyril Abiteboul.

The former was expected, Stoll reaching the end of a five-year term; the latter came as a shock. When an executive leaves a business 'with immediate effect' it usually means someone wasn't happy. Toys may have been thrown...

ff LAZARUS, THE

PROJECT **JJ**

REPAIR SHOP AND

SPARTACUS ROLLED

INTO ONE FIVE-YEAR

There had been a story circulating to the effect that Abiteboul was heading for higher office, in the role now held by Rossi, but it's clear that Renault Group's CEO Luca de

Meo wanted to shake the tree rather harder. In the reshuffle that followed Abiteboul – famed for his pugnacious relationship with Christian Horner during the Red Bull-Renault years – elected to bail.

Last September's announcement that the Alpine brand would become the focus of Renault Group's sporting ambitions had already raised a few eyebrows. Many wondered aloud whether the little sportscar company based in Dieppe, France, could really shoulder the burden of Renault's F1 programme.

Putting aside the accolades which have flooded in thanks to the success of Alpine's evocative A110 sportscar, with retro styling and allaluminium construction, could Renault justify an F1 programme based on a mid-range two-seater which sold just 4376 units in 2019? The answer lies not in the past but in the future.

In January de Meo outlined his vision in a live-streamed presentation lasting almost three hours. The first thing we were introduced to was the rather clunky portmanteau being used to describe the new strategy: 'Renaulution'.

Painful to say, harder to write, the strategy as outlined by de Meo has three phases comprising Resurrection (2020-23), Renovation (2023-25) and Revolution (2025+). *Lazarus*, *The Repair Shop* and *Spartacus* rolled into one five-year project.

So far, so corporate.

The detail behind the presentation was clearer, as de Meo outlined a shift in focus across the Renault Group, "from volume to value." Sales volume had been the primary

> strategy of his predecessor, Carlos Ghosn, whose arrest in Japan in November 2018 triggered a crisis for Renault and its alliance with Nissan. Ultimately it fell to interim CEO Clotilde Delbos to stabilise

the ship prior to de Meo's recruitment from Volkswagen, where he ran SEAT.

In focusing on value, for which read 'profit', de Meo is playing to his strengths as a heavyweight automotive industry professional. Said to have been a one-time protégé of the late Sergio Marchionne, de Meo journeyed through the ranks of FIAT, taking responsibility for the Italian company's cherished brands along the way – Lancia, Alfa Romeo and Fiat.

It was while at Fiat that de Meo first came into contact with Davide Brivio, who was at that time director of Yamaha's Moto GP team. In a break with tradition, Fiat joined with Yamaha

GP RACING MARCH 2021

from 2007-2010, becoming the first non-tobacco sponsor of a MotoGP team in the four-stroke era.

It was Brivio, known for his organisational and management skills, who made a fateful trip to Ibiza in 2003 to convince Valentino Rossi to abandon Honda in favour of Yamaha - a company that had gone 12 years without achieving title-winning success.

The rest is history but, in case you don't follow MotoGP, let us pause to reflect on the success Brivio and Yamaha boss Lin Jarvis achieved with their new recruit. Rossi won his very first race for the team in 2004 before going on to take the first of four world titles, winning 46 races for Yamaha during a seven-year phase. In 2011 he departed for Ducati and Fiat ended their sponsorship.

Brivio left too, initially continuing to work closely with Rossi, but ultimately decided to return to the fray when head-hunted by Suzuki in April 2013. He masterminded Suzuki's return to MotoGP the following year, culminating in last season's famous victory in both the teams' and riders' championships.

The relationship between de Meo and Brivio is important.

De Meo has determined that Alpine will become the focus of Renault's sporting ambitions - spearheaded by F1 – and he wants a proven winner to help drive the results. Having joined Renault shortly after F1's teams agreed the budget cap, de Meo signed off on the company's commitment to the new Concorde Agreement and then set about the integration of the Alpine, Renault Sport and F1 operations.

It's a central pillar of his vision. De Meo understands the marketing potential of F1 and is interested in exploring the technology transfer to Alpine road cars - particularly in terms of connectivity and energy management. He knows that on-track success is a prerequisite.

The budget cap and 2022 regulations should help Alpine edge towards that goal, but as we have seen previously the theory is often quite different from reality. Mercedes, Red Bull, Aston Martin and Ferrari are not exactly twiddling their thumbs in preparation for next season.

De Meo knows this, and it's clear he sees the challenge of F1 as reflecting Renault's wider issues. In his January presentation he used an F1 analogy to describe the Group: "It's [been] like a car growing in size and weight, becoming too heavy for the output of the engine, and this becoming very obvious when the latest grands

prix are raced on more and more twisty circuits."

The Alpine brand has become the beneficiary of his drive to shed excess weight and make the Renault Group more agile.

Laurent Rossi has announced that Alpine's future is all-electric, a partnership with Lotus focusing on producing a lightweight, electric sportscar, with further plans including a hot hatch and a crossover SUV.

Quite how the all-electric future for Alpine squares with F1's continued embrace of the internal combustion engine only time will tell. A much larger energy storage system is likely when F1 introduces new engine regulations in 2025, but whether Alpine will feel that is enough





In this regard, de Meo and Rossi are united. By 2025 the Alpine division has to be profitable from all its operations, F1 included. To achieve that, the team will unquestionably need to meet its targets. This means building a competitive car within the budget cap and unlocking the performance necessary to produce sufficient prize money and sponsorship.

In the meantime, Rossi's support for the F1 programme is steadfast.

"By now there should no doubt that racing in general, and F1 in particular, will remain at the heart of our brand," he says. "We have renewed our full F1 commitment and will enter the new regulations era in 2022 with the objective of consistently competing for podiums. 2021 will be a transition for us, like all the teams."

All the teams except those winning races...







Given the timelines for the 'Resurrection' phase of de Meo's strategy, Alpine will need to deliver podiums in 2022 or 2023 at the latest. This is no easy task. Even the incoming Fernando Alonso acknowledges how difficult it will be to grab a podium despite Daniel Ricciardo and Esteban Ocon managing this feat in 2020.

Since returning as a team owner in 2016, Renault has finished ninth, sixth, fourth, fifth and fifth in the constructors' championship, with 2020 podiums at the Nürburgring, Imola and Bahrain the high points. Most noticeably, the team has yet to beat its leading customer teams, initially Red Bull and more recently McLaren.

That the newly calibrated Alpine division enters 2021 without a single F1 engine customer

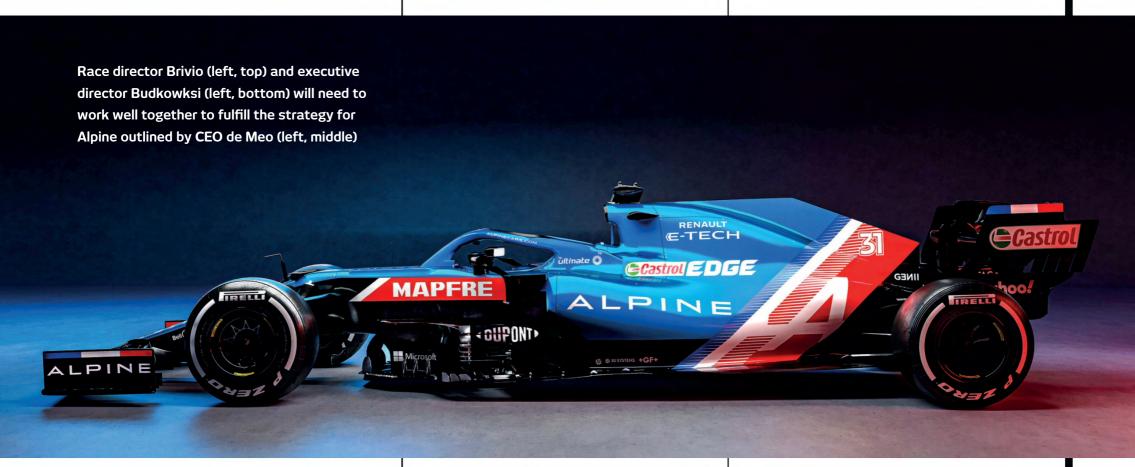
For his part, Brivio spoke during his final months with Suzuki about the things that motivate him, and where he feels he can bring value to a team. Specifically, he spoke about his experience working with Valentino Rossi and gaining an understanding of the importance of having a winning mindset which cascades through the team.

"One thing is to race to participate and to try to do your best," he told the MotoGP podcast, "[Another] thing is to race with the target to win the title. When you go for winning the title, everything has to be perfect."

Brivio's success in winning MotoGP with Suzuki last year clearly resonated with de Meo, and the task facing him at Alpine F1 is similar At 56 Brivio has been around the racing block a few times, most obviously having successfully worked with superstar Valentino Rossi and more recently with Suzuki's Spanish line-up of 2020 champion Joan Mir and team-mate Alex Rins.

Brivio will also know Alonso's speed and experience will be important in helping the team understand its weaknesses, picking up where Ricciardo left off. Ocon's role will be to provide comparative data and prove his worth alongside a team-mate who is as tough as they come.

One major difference for Brivio, of course, is that whereas the rider can make a big difference to performance on two wheels, the driver bolted into the cockpit of an F1 car has a lot less influence over ultimate performance.



will undoubtedly have been another recent discussion point. There was a time, not too many seasons back, when customer programmes were an essential part of Renault's game plan.

These challenges aside, Brivio's appointment shows how serious de Meo is about doing whatever it takes to make Alpine F1 work. Even if his appointment sent ripples through Enstone.

Abiteboul's departure means that Marcin Budkowski, the man who controversially joined the team from the FIA as executive director in April 2018, will now need to form a strong partnership with the incoming race director.

There has been much discussion about how this can work, but given that Budkowski is an engineer – an aerodynamicist to be exact – and that Brivio isn't, a clear division of roles and responsibilities should be possible. A Horner/ Adrian Newey approach might not go far wrong. – even if the team is not starting from scratch.
"[When] Suzuki called to say that they wanted to come back to MotoGP and for me to reorganise the team, I liked very much this job," recalls
Brivio. He relishes a challenge, to help a team make the journey from participant to competitor.

Working with Alonso is unlikely to faze him.

GIVEN THE
TIMELINES,
ALPINE WILL
NEED TO DELIVER
PODIUMS IN 2022
OR 2023 AT
THE LATEST

The balance between talent and technology is a different equation.

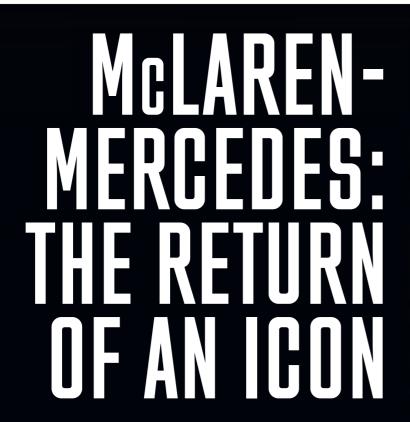
The much larger, complex operations of Alpine F1 will also take some getting used to, but for a capable people's-person like Brivio the focus on building team cohesion, trust and focus will be the same whether it's for 45 people in a MotoGP outfit or 900 at Enstone.

Perhaps Brivio's greatest challenge will be in making the Alpine-Renault Group relationship work. It was his ability to get what was needed from the Yamaha and Suzuki bosses in Japan that helped ensure his MotoGP teams had the resources to win. It's something he is proud to have achieved, balancing the urgent needs of a race team against the wider demands of its corporate parents.

If he can help deliver that at Alpine, we might even agree it's a Renaulution worth the name.







McLaren has come more or less full circle in seven years. Having ended its deal with Mercedes at the end of 2014, it now finds itself using the Silver Arrows' engines again in 2021.

The decision to leave Mercedes and sign with Honda was made on the basis of a belief that it was not possible to win without a works engine. But since then the landscape at McLaren has changed, and so has that of F1. The Honda deal failed to produce results and ended acrimoniously. Ron Dennis was ousted as McLaren chairman in 2017, and Liberty Media has taken over the championship and introduced a budget cap.

Now, McLaren Racing CEO Zak Brown and team principal Andreas Seidl believe a customer engine should not be a barrier to success under the new rules from 2022. In any case, a works deal is not available.

Seidl's thinking in going after Mercedes was simple – if we can get the

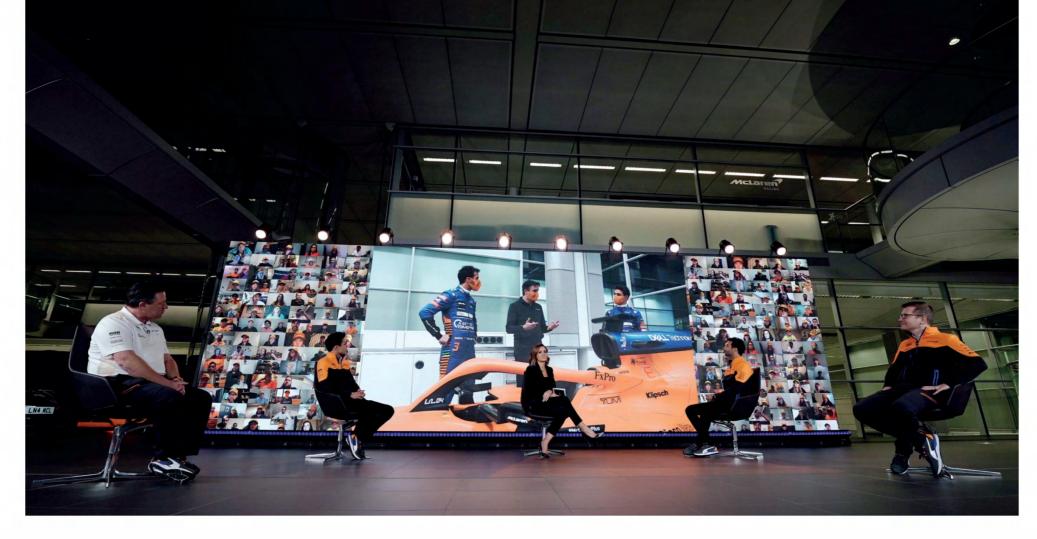
McLaren is using Mercedes engines again, seven years after the last deal ended, and was quick to test the 'new' combination (top)



best engine, why wouldn't we have it? Not only has the Mercedes set the performance standard through the hybrid era, but it also brings weight and packaging benefits that aid holistic car performance.

A compromise with the FIA as part of the rule changes instigated by the Covid crisis at the start of 2020 means McLaren had to forego the two development tokens allowed to the other teams for changes to cars outside aerodynamics into 2021, because of the modifications required to fit the new engine.

Production director Piers Thynne says these are extensive enough that this year's model is "essentially a new car". The Mercedes engine in itself should offer a step forward in performance. And with aero development remaining free, McLaren is hopeful of at least holding its position in the fight at the head of the midfield in 2021.





RED BULL'S POST-HONDA FUTURE

Honda's bombshell decision to quit Formula 1 at the end of 2021, announced last autumn, left Red Bull in a serious bind. The team either had to find a way to take control of Honda's engine programme and bring it in house or become a customer team again.

Mercedes quickly ruled out supplying its direct rival (no surprise there), citing lack of spare capacity, while a deal with Ferrari looked unlikely for similar reasons and carried real risk of being a backwards step for Red Bull, so 'customer status' really meant 'returning to Renault engines' – escape from which was the whole point of Red Bull linking up with Honda in the first place...

Red Bull's preference was to take over Honda's engines and run the programme in house, but the eye-watering costs associated with this plan were

a serious sticking point – capital expenditure to construct and staff an engine facility, plus yearly development costs on the power unit itself.

So began Red Bull's push to return to frozen engine specifications from 2022 onwards, plus a mechanism to balance performance should there be any outliers at the start of said freeze.

Eventually F1's stakeholders agreed to Red Bull's demands (see Insider), paving the way for Red Bull to acquire the IP for Honda's engine

design and commit to transforming itself into a full-blown manufacturer team.

This is no stop-gap solution. Red Bull is not minding Honda's engines until the end of the current rules cycle, waiting for the Japanese manufacturer to return in 2025. Red Bull is investing in a new division – Red Bull Powertrains – that will also work on designing and building new Red Bull-badged engines from 2025 onwards, just as Mercedes HPP in Brackley would do, though Red Bull is open to working with another manufacturer on these new rules, should an "exciting partner" (Porsche?) come along.

In the near term, according to Red Bull team principal Christian Horner, Honda

will bring forward developments originally scheduled for 2022 to help Red Bull get a head start with the current engines. Honda will also work with fuel supplier Exxon-Mobil throughout 2021 to prepare for the introduction of E10 sustainable fuels next season.

In the meantime, Red Bull needs to recruit a team to run its new engine division, which will also need to supply power units to sister squad AlphaTauri. Horner says some existing Red Bull staff will be reallocated, some inherited from Honda, and others recruited.

"We will inherit the vast majority of HRD UK, the operational side of Honda based in Milton Keynes," Horner says. "That gives us a standing start, and we are in the process of setting out some of the other roles that will be filled in the

coming weeks and months. The agreement we've achieved with Honda buys us time to assemble the right group of people."

Horner confirmed Red Bull has "candidates in mind" for senior roles, such as technical director, managing director and operations director, and he heaped praise on former Mercedes chief Andy Cowell, who left HPP at the start of this year, and the Ilmor organisation co-founded by Mario

Illien, which currently works with Honda. But Horner said his understanding was Cowell's interests now lie "outside of F1" while Ilmor would be attractive to work with but for the fact it currently has "exclusive contracts" with... Honda...

One company definitely on Red Bull's books is AVL, a Graz-based specialist engineering firm steeped in motorsport expertise, which will help spec the new Milton Keynes facility with engine dynos and other vital equipment.

This a serious undertaking from Red Bull; an expensive expansion, funded by company owner Dietrich Mateschitz. Most importantly, in Horner's words, "it's safeguarded the commitment of Red Bull to F1 for the foreseeable future".

"THIS IS NO STOP-GAP SOLUTION. RED BULL IS NOT MINDING HONDA'S ENGINES UNTIL THE END OF THE CURRENT RULES CYCLE, WAITING FOR THE JAPANESE MANUFACTURER TO RETURN"



NEW OWNERS, NEW APPROACH FOR WILLIAMS

Williams returned to respectability in 2020, after two seasons cut adrift of the rest of the field. On raw qualifying pace, the Williams was actually the eighth quickest car on the grid - between 0.1-0.2s ahead of Haas and Alfa Romeo.

The team could not translate this into race results -Williams finished last in the constructors' championship for the third consecutive year - but the fact George Russell made it into Q2 in nine of his 16 races for the team has given Williams hope it is finally back on the right track after an alarming drift in the final years of the past decade.

With regards to 2021, team boss Simon Roberts says: "Realistically, midfield isn't really possible for us with this car and these regulations, but it would be a great year if we're eighth, it would be OK if we're ninth and it would be not OK if we're 10th."

For 2022, the team is making a big change in approach, deciding to give up building its own gearbox to buy one from Mercedes. Unlike Aston Martin, Williams will continue to make its own suspension parts.

It was a "pragmatic" decision, Roberts says, based on the fact Williams wanted to finally switch to a carbon gearbox -Williams is the last team still using aluminium - but did not have a gearbox rig to test on, and these are expensive.

"Effectively buying a complete PU assembly from Mercedes is a much simpler proposition to manage," Roberts explains. "It allows us to move people who were involved in the gearbox on to other areas of the car to add performance, which is really important in a cost cap. And it gives us the reliability and performance we're looking for going forwards.

"It gives us the flexibility to use the design team in a slightly different way and we need to work our way back up the grid. What we don't want to do is make life any more difficult than it already is. As part of a rebuild and moving us forward, this is an integral part of it." 🙃

Roberts (right, centre) is looking for Williams to carry on with its improvements in pace, with the FW43B and a settled line-up of George Russell (right, left) and Nicholas Latifi

RUSSELL





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CHAPTER 4

Two teams with a history of excellence are going into battle for honours again in 2021 – but only one of them has been able to win consistently in the hybrid era.

4.1 MERCEDES: WIN, WIN AND REPEAT

4.2 RED BULL: THE CHALLENGERS

BATTLE OF THE TITANS

There may be a huge rules reset coming within a handful of months, but that's not going to stop F1's most fiercely competitive outfits tearing lumps out of each other from race one...

PICTURES MOTOR MERCEDES AND RED BULL **ILLUSTRATION** OLIVER THONARD

Seven wins into a record-breaking sweep of consecutive world championships, Mercedes' biggest problem is that it makes such brilliance seem easy and effortless, even on its occasional off-days. But that excellence comes at a cost: last season's title double might have appeared straightforward but it was bought painfully.

Wary of a resurgent Ferrari, Merc's engineers pushed harder than ever, taking risks both with the W11 chassis and its new power unit. Team principal Toto Wolff said it had pushed many of them to breaking point, or even beyond. As the season panned out, flattered by Ferrari and Red Bull proving weaker than expected, Mercedes enjoyed a surprisingly healthy competitive margin. But it isn't allowing itself to be lulled into complacency, even though F1's austerity measures dictate that the 'new' W12 is essentially a B-spec version of its predecessor.

"You don't want to fall into the trap of saying, "This is a 'B' car and it's just carry-over," Wolff tells *GP Racing*. "In Formula 1 the tiniest bit of advantage can decide the season result.

And the bit that was cut out on the floor has had quite an effect – you need to think if you cut the part out, that is X percent of downforce, that's going to be the same for everybody. So your whole baseline drops.

"And then how much of that can you recover through the various solutions and innovations you can come up with? There are many unknowns. So we still have the mindset that we're entering another season with zero points. We know we have a capable team and we've had past successes, but that isn't any guarantee

Mercedes has been the team to beat since 2014 – but it's taking no chances this season in the face of a renewed challenge from Red Bull

WORDS STUART CODLING
ILLUSTRATION OLIVER THONARD

for this success to continue."

The mantra of starting from zero is an important one. Some of the most successful coaches in football and rugby speak of the need to approach the second half of a game as if the score is nil-nil, regardless of what's actually on the board. And if the restrictions on technical development make this F1 season in some ways a 'second half' of 2020, at least so far as the cars are concerned, some uncertainty lingers over how each team will specifically be affected by the measures taken to reduce downforce.

Targeted at the rear of the car, the restrictions on diffuser fences and brake winglets, together with simpler and smaller floors, may not have affected each car equally given the variations in aerodynamic philosophy up and down the field. Ferrari in particular was already struggling with chronic rear-end instability brought on by a lack of consistent downforce in that area; it's had to go beyond the scope of 'free' aerodynamic development and spend 'tokens' [see p32] on redesigning the rear suspension.

Red Bull took most of last season to understand fundamental flaws in its car concept and the correlation between windtunnel data and real-world performance. While the majority of the issues were concentrated around the performance of the front end, F1 aerodynamics work as a complete system and Red Bull's new understanding will influence its thinking all the way across the car. Of all the teams it was the most cagey before testing began, darkening out the floor and rear suspension in early shots of the RB16B (Mercedes also played games, allowing



BOTTAS VS RUSSELL: On a wing(man) and a prayer



Lewis Hamilton's role is just one plate Toto Wolff must spin as 2021 unfolds, because the identity of the team's second driver - Hamilton's 'wingman' is open to question from 2022 onwards. George Russell's assured stint as Hamilton's stand-in at last season's Sakhir GP has had a complicating effect, strengthening Wolff's hand in negotiations with Lewis. Russell could replace Valtteri Bottas or even Hamilton should the need arise, for while George might lack Lewis's box-office value he is eminently capable of delivering on track.

"With Valtteri, we know exactly what we have," is Wolff's telling summation of where the Finn stands. He won't say Bottas doesn't have what it takes to challenge for the title, and speaks warmly of "fantastic performances", and yet his pronouncements are shrouded in equivocation.

Despite several 'reboots' since his arrival at Mercedes in 2017, Bottas has been both frustrating and frustrated. Capable of beating Hamilton over a single lap, given the right circuit and conditions, too often he has had off-weekends or allowed small problems to send him backwards in races. Tyre management has occasionally been an issue or, as at Imola last year when a chunk of bodywork lodged in an aerodynamically critical area of his car, you could say that if he didn't have bad luck he'd have no luck at all.

"I don't want to leave any 'what ifs' after this year," says Bottas, which is a tacit admission that this season is a critical one. He acknowledges he could have done "a better job" in several races in 2020, and that he either put too much pressure on himself or not enough.

"A lot of work and focus for me this season is the mental side of things, and trying to find the right way of approaching every single race weekend."

He'll need to find that quickly if negotiations open sooner rather than later – because as Wolff says, ominously, "We also know what we have in George – and the future is bright for George in any case."



the camera to play all over its car at launch before technical director James Allison casually mentioned that it was essentially a mock-up).

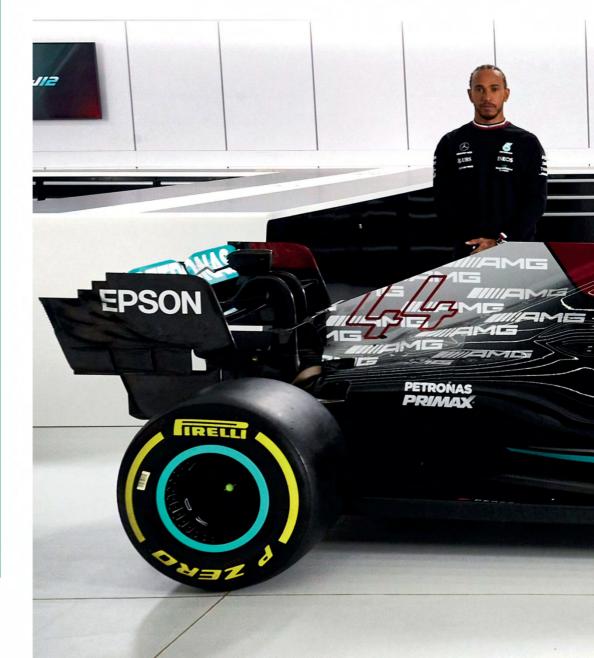
"I think all the chatter before you go testing is just noise," says Wolff. "And you can listen to it and be entertained. But we don't pay any attention to it. And in testing, it's a step into the real racing because you can analyse what you're seeing on track.

"But it's still a game of camouflage where some teams tend to hide a lot, and probably confuse themselves even more. There is a kind of first indication or assessment of where everybody stands, but as they say, once the flag drops the bullshit stops.

"If we showed everything, the competition would have the opportunity to look at it, evaluate it, maybe even calculate it in CFD and get a result that would allow them to show up at the first, second or third race with this update... we can't afford to be exhibitionist so early."

One of the key innovations on last year's W11 was its narrow-wishbone rear suspension design, something which freed up a lot of room for aerodynamic development but was difficult to implement and had an impact on gearbox reliability at the beginning of the season. Others are now copying this, and it's difficult to judge how much of an effect the new restrictions have had on the concept. This is another good reason for secrecy: Wolff speaks of an accumulation of "marginal gains" in this area, small elements

Mercedes goes into 2021 with a settled line-up (below) but George Russell (below, left) is waiting in the wings



adding up to tenths of a second rather than single design features creating big gains by themselves. As ever, the balance sheet will be revealed when all the cars run in anger at the first race of the year.

There are doubts, too, about the mindset of the reigning champion. By his own admission, Lewis Hamilton expended much energy fighting on several fronts last year, dovetailing his title defence with a vigorous campaign for social justice. He then contracted COVID-19 after putting the title beyond reach, missed the penultimate round of the year, then returned for the final race weekend but looked palpably out of sorts throughout. And despite protestations to the contrary from all parties to the negotiations, settling his contract for this season took longer than expected and required fundamental compromises all round.

Wolff scotches any doubts about Hamilton's motivation, or indeed the whole Mercedes organisation's desire to wring itself dry in the fight at the sharp end. And if Hamilton elects to continue beyond this season, that decision will come sooner rather than later – there will be no waiting until the world championship is in the bag this time around.

"I think there's a good chance Lewis will want to continue," says Wolff. "Because he enjoys driving and he's embedded in the team, and that motivation is still there. But of course that can change during the season. He just wants "I THINK THERE'S
A GOOD CHANCE
LEWIS WILL WANT TO
CONTINUE, BECAUSE
HE ENJOYS DRIVING
AND HE'S EMBEDDED
IN THE TEAM, AND THAT
MOTIVATION IS STILL
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TOTO WOLFF

to keep that flexibility.

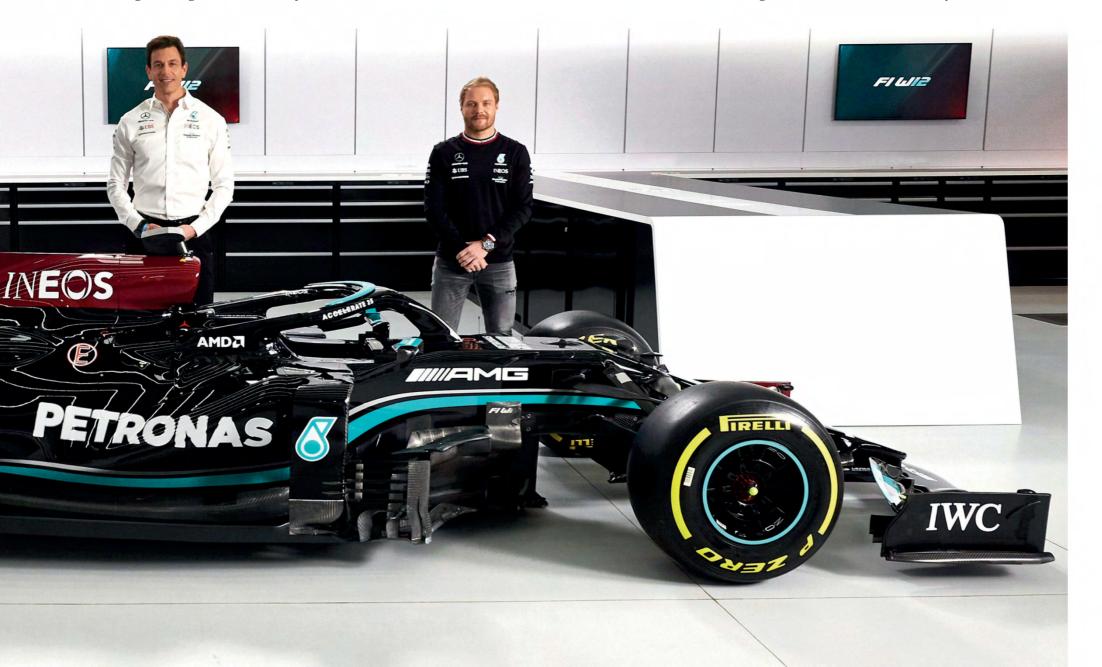
"Nevertheless, we've decided to start talking to each other relatively early, very soon in fact, to find out what we mutually envision for the future. He on the one hand and we on the other hand as a team.

"Times change. New priorities for all of us in terms of the way we live. He [Lewis] is very passionate about his initiatives against racism and inequality.

"And then we have this massive regulatory change in 2022, but I don't think this plays a role. I think it's fair enough for a driver who has won seven championships to give himself the flexibility in his mind to decide what he wants to do in the future, whether this is racing or outside the circus."

What's most significant about this latest round of contract negotiations is that Hamilton was no longer in the proverbial driving seat, or at least was unable to name his terms to the extent he has in previous years. He's a man who very much wears his heart on his sleeve, so it will soon become very clear – once again, around the time the flag drops – how determined he is to rack up title number eight.

Regardless of whether Mercedes has delivered the technical goods once again, can it ensure its key human asset remains on the competitive boil – or perhaps finds yet another higher level – even as they circle the negotiation table once again to thrash out a future beyond this season?







Crazy to think it's been almost a decade since Red Bull last won a world championship in Formula 1, but such has hybridisation skewed the picture against the team that dominated the latter part of F1's V8 era.

In the early days, circa 2014-16, the inadequacy of Red Bull's customer Renault engines provided a clear excuse. But since 2017 the picture has become somewhat fuzzier. Rule changes back then were designed to tip the scales back towards aerodynamic advantage, playing to Red Bull's traditional strengths, but still it wasn't enough to overcome the odds.

To its great credit, Red Bull is the only team to have won races with two different engines during the hybrid era. But both of those engines, though improved, have trailed Mercedes for power and reliability, forcing Red Bull to overreach with its chassis to try to make up the deficit - much in the way Max Verstappen talks about his needing to drive too near the limit to keep up.

We've seen this trend consistently since 2017: Red Bull starting on the back foot trying to get a handle on its intricate box of aerodynamic tricks, then coming on strong in the second half of the season as the car's narrow, peaky sweet spot is found – this usually dovetailing with Mercedes tailing off development having already established an unassailable lead in the standings.

The unusual nature of last year meant Red Bull combined three planned upgrades (Melbourne, Spain and Austria) into one for the delayed first race of the season. Without the usual track running data to feed back into the system, Red Bull became stymied trying to fix

For the past four seasons Red Bull has come on strong in the final races - but only after starting from a low bar. This year, says team principal Christian Horner, it's ready to come tearing out of the blocks...

> **WORDS BEN ANDERSON ILLUSTRATION OLIVER THONARD**

the unpredictable handling characteristics of RB16 that first became apparent during winter testing in Barcelona. Much of those aerodynamic "anomalies", as Red Bull described them, were traced to a change in philosophy at the front of the car, where a 'cape' device pioneered by Mercedes was adopted.

Meanwhile, Mercedes made a big leap forward with its own chassis (featuring the unique Dual-Axis Steering system and clever rear suspension), and also the engine – cranking a near-0.4s advantage over Red Bull in 2019 out to nearer nine tenths of a second in 2020, which took the remainder of the season to reverse. By the final two races of last year, Verstappen was bang on the pace, but of course by then it was already far too late.

To break the cycle requires Red Bull starting this season on the front foot, and there are several factors that may aid the team in its quest this year. First up is the large carryover of components from last season to this, in so far as Red Bull's 2021 car is officially labelled a 'B-spec' of 2020's. Certain limited changes have been permitted (through the token system) and mandated (particularly to the aerodynamic profile of the floor), but the rules limit both Mercedes' opportunity to stretch further away again, and Red Bull's scope for overtrying to keep pace. The fact Red Bull was fastest in the final race of 2020 in Abu Dhabi - a traditional Mercedes stronghold – bodes well.

Red Bull's engine partner has also been busy laying the ground for a title bid before it steps away from Formula 1 at the end of this year.



been expedited, and dyno work with Red Bull's fuel partner ExxonMobil has yielded promising results. It's clear Red Bull-Honda is resolutely focused on a proper title bid in 2021, despite the looming challenge of 2022's major rules reset. In team boss Christian Horner's words, Honda has "thrown everything at it" for this season. After that, of course, Red Bull will take over from Honda and enter a new era as a full-blown manufacturer team in its own right.

Conversely, Mercedes – the beneficiary of

seasons – is facing up to a period of flux. Toto Wolff, recovering from a winter bout of COVID-19, will have his hands full managing a new major shareholder, drivers both out of contract, an engine department recently under new leadership, and a set of regulations - particularly this year's aero restrictions and budget cap – against which his team stands to lose most. Dare we say Toto has looked a little drawn in the build-up to this new campaign...

"If they go out and win the first race by half

Horner. Wolff often talks about how defeat and difficulty drives his team to never relent in its quest to reach new heights, but regular battering has had a stimulating effect on Red Bull too.

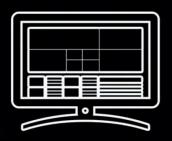
"It's an ethos here – a 'can do' attitude," says Horner. "We're a team of racers. Nobody enjoys losing. And that's the biggest motivation. Racing DNA runs through the business, and even when we find ourselves in difficult positions, we engineer our way out of them. We've been a competitive team – even though we haven't been

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Red Bull is determined to start 2021 taking the fight to Mercedes, rather than playing catch-up

able to challenge for championships in recent years, we've still been winning races; we've still on merit been able to take on and beat Mercedes; one of two teams [the other being Ferrari] to do that over the last seven years.

"There's a sense of determination to get back into a competitive position. Nobody can predict the year ahead. Mercedes has such strength and depth in their organisation now – with the success that they've enjoyed over the last few years, they're a formidable opponent. We're having to extend ourselves fully to, hopefully, put a competitive campaign together against them."

This will be vitally important this year, because Verstappen has a performance clause in his contract (which is due to expire at the end of 2023) and Horner is on record saying Max will no doubt be "top of Mercedes' list" should it need to find a replacement for Hamilton.

Verstappen was typically guarded about Red Bull's prospects for this season, saying: "I just don't want to hype things up at the moment – I want to stay low-key and focus on our job. We should do the talking on the track, not next to the track. That's what I prefer".

But after two seasons evolving into Red Bull's undisputed team leader in the wake of Daniel Ricciardo's departure, Verstappen is driving superbly and is clearly ready for a tilt at Hamilton's crown. It's up to Red Bull and Honda to give him sharp enough tools to do the job...

"They're a quality organisation – they're the reigning world champions and absolutely favourites by some margin going into this championship," says Horner of Mercedes. "But there is always evolution in sport, nothing stays the same forever, and we just want to make sure that we're at the forefront when things do.

RED BULL'S YOUTH UNCONVENTION

Red Bull's usual driver policy is

to focus on youth and promote from within, so the signing of veteran Sergio Pérez, 31, on a one-year deal to partner Max Verstappen represents a clear break with normality.

It will puzzle some that Pierre Gasly – demoted from Red Bull for underperformance midway through 2019 but a brilliant race winner for AlphaTauri last season – wasn't considered for re-promotion, or that his replacement, Alex Albon, wasn't given a further chance after his improved showing in the final race of last year.

But both these drivers are known quantities now, and neither performed consistently well enough relative to Verstappen for Red Bull to feel confident they could do the heavy lifting in a constructors' battle with Mercedes.

Too often Max has been outgunned against Lewis Hamilton and Valtteri Bottas because his post-Daniel Ricciardo team-mates have become mired in the midfield instead of racing at the front.

Pérez did not deserve to lose his Racing Point seat after finishing fourth in the championship – the place Albon should by rights have made his own. An opportunistic victory in the Sakhir GP sealed the deal for Pérez while Red Bull waits for new talent – Yuki Tsunoda in particular – to cycle through.

"We reached a unique situation where there was a driver like Sergio on the market,



and it offered another dynamic to bring into the team with the experience and knowledge that he has," explains Red Bull team boss Christian Horner.

"Both Pierre and Alex are still very capable drivers that are still part of the programme, who if we didn't believe they had talent wouldn't have been retained. But we just came to the conclusion that Sergio, with the dynamic [he brings] and the experience he has, with the results he delivered last year, was hard to overlook."

"Our target is to come out of the starting blocks in the strongest position. We've had a degree of continuity with a large percentage of the car remaining the same over the winter, [but] it's never one race that dictates things, you need two or three events together to get a real flavour. So, I would think by the time we get to Portimão

- race three, race four - you're going to have a clearer picture of how the land is lying.

"Of course, you never know what your [other] opponents have been doing. Ferrari for sure haven't been resting on their laurels. But the one thing you can guarantee is we never give up – we'll always fight until the very end."



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Lewis Hamilton

Age 36 **Debut** Australia 2007 **Starts** 266 Wins 95 **Podiums** 70 **Titles** 7

The obvious favourite, after the contract stand-off between himself and Mercedes was, unsurprisingly, sorted.

Mercedes is in one of those wonderful virtuous circles where it starts each season so strongly it can afford to focus on the following one much earlier, thus increasing the chances of spotting and disarming fresh booby traps lurking in the regulations.

Presuming Mercedes has done its homework diligently, particularly around the budget cap, and the car retains the instant front-end response Hamilton utilised brilliantly in 2020, he will be difficult to stop.

GP RACING VERDICT

Should have Bottas covered, so only needs to watch out for Verstappen and the remote chance 2021's rule tweaks trip Mercedes up.





Valtteri Bottas

31 Age **Debut** Australia 2013 156 **Starts** 9 Wins **Podiums** 47

2nd (2019/2020) Best season

Which version of Bottas are we on now? Easy to lose track. Not that Valtteri will care: "to whom it may concern" and all that.

He's been chipping away at Hamilton's advantage, and some misfortune last season created an artificially large points gap - even though Hamilton missed a race.

Bottas is fine when things are going well, but struggles when they are not. Whether it's adaptability in the rain, tyre management, or recovering from difficult situations, Hamilton is still the master and Bottas very much the apprentice. Perhaps more talking with Toto will help...

GP RACING VERDICT

2021 is surely his last chance. George Russell is ready to take over. Time for Bottas to step up or step out.



KEY MERCEDES STATS in 2020 for Valtteri Bottas, of Mercedes' 115 Formula 1 wins have consecutive races in the points, equalling his previous been achieved by Lewis Hamilton best from 2019 stretching back to the 2018 Austrian GP

TEAM STATS

2020 RESULTS

Position lst **Points** 573 Wins/podiums 13/12 **Poles** 15 Fastest laps

LAST 5 YEARS

2020 lst 2019 lst 2018 lst 2017 1st 2016 1st

TEAM DETAILS

Bases Brackley and Brixworth, UK

Chassis

F1 W12

Power unit Mercedes M12 E

Team principal

Toto Wolff

Technical director

James Allison

TEAM HISTORY

France Debut 1954 Races started 227 Wins 115 **Poles** 126 Fastest laps 84 5,824.14 **Points** Drivers' titles 9

Constructors' 7 titles

Max Verstappen

 Age
 23

 Debut
 Au

Australia 2015

 Starts
 119

 Wins
 10

 Podiums
 32

Best season 3rd (2019/2020)

Is this his best chance yet to win the title? Maybe. Much depends on Red Bull finally making good on yearly broken promises to end the cycle of starting seasons slowly.

By the final three races of 2020, the RB16 finally looked sorted out aerodynamically, but how much did that work take away from efforts to finesse the design for 2021's rule tweaks while preparing for the budget cap?

Will Honda's final throw of the dice on the engine front make up the deficit to Mercedes, or create new problems? On these questions do Max's title chances rest.

GP RACING VERDICT

Max is undoubtedly ready to take a pop at Lewis, but can Red Bull give Verstappen the tools to do the job before tempered frustration at failure boils over?





Sergio Pérez

 Age
 31

 Debut
 Australia 2011

 Starts
 191

 Wins
 1

Wins 1 Podiums 9

Best season 4th (2020)

Christian Horner likes to talk up the Red Bull junior programme's robustness, but the fact he's turned to this veteran driver and perennial midfielder – albeit a very good one – to find a more competent partner for Verstappen speaks volumes.

Although Esteban Ocon got under his skin, Pérez is generally a cool and consistent performer. He will use the tyres better than Alex Albon did, and cause less ruckus behind the scenes than Pierre Gasly.

Pérez is faster than people think too, having been nip and tuck at Force India with Nico Hülkenberg – a strong qualifier with similar driving style to Verstappen.

GP RACING VERDICT

Tough gig, but Pérez should bag podiums and maybe a win or two if the car is up to it.



FOUR times Red Bull has finished second in the championship THREE OF MAX'S 10 WINS HAVE BEEN WHEN HE STARTED FROM FOURTH POSITION

TEAM STATS

2020 RESULTS Position 2nd Points 319 Wins/podiums 2/11

Poles 1 Fastest laps 3

LAST 5 YEARS

| 2020 | 2nd |
|------|-----|
| 2019 | 3rd |
| 2018 | 3rd |
| 2017 | 3rd |
| 2016 | 2nd |

TEAM DETAILS

Base Milton Keynes, UK

Chassis

RB16B

Power unit-

Honda RA621H

Team principal

Christian Horner

Technical directorAdrian Newey

TEAM HISTORY

titles

| Debut | Australia |
|-----------------|-----------|
| | 2005 |
| Races started | 303 |
| Wins | 64 |
| Poles | 63 |
| Fastest laps | 68 |
| Points | 5,043.5 |
| Drivers' titles | 4 |
| Constructors' | |

4





Daniel Ricciardo

Age 31

Debut Great Britain

2011

Starts 188 Wins 7 **Podiums** 24

Best season 3rd (2014, 2016)

Ricciardo bid adieu to Renault and waltzed into Woking because he feels McLaren has more potential. The timing is good, because McLaren is on the up and has installed F1's best engine in the back of its car.

Ricciardo admits he's watched Carlos Sainz and Lando Norris over the past two seasons and wondered what he might have achieved using their equipment.

McLaren has courted Ricciardo for a while and is excited to welcome an exceptional motivator (according to Pat Fry), who will provide a proven, race-winning yardstick against which to measure Norris.

GP RACING VERDICT

KEY McLAREN STATS

points finishes for

One of the best racers out there, Ricciardo will be front of the queue to bag podiums when Mercedes and Red Bull slip up.





Lando Norris

21 Age Australia **Debut** 2019

38 **Starts** Best result 3rd **Podiums** 1

9th (2020) Best season

Of the new wave of British talent – Alex Albon, Norris and George Russell - that swept into F1 in 2019, where Norris sits is toughest to figure out.

Albon has been 'Max Verstappen'ed' out of F1 while Russell has driven superbly in bad cars and good. Meanwhile, Norris has spent two years being close to, but not quite as good as, Ferrari-bound Sainz.

Norris is clearly very capable. He's grown in confidence, and results have followed, but the jury is still out on his ultimate potential. Going against Ricciardo should reveal a bit more about how Norris truly stacks up.

GP RACING VERDICT

Ricciardo is easy to get along with but very difficult to beat. Norris will be doing well if he can stay on terms.



fastest laps for Daniel Ricciardo last season

RACES LED

TEAM STATS

2020 RESULTS

Position 3rd 202 **Points** Wins/podiums 0/2 **Poles** 0 Fastest laps

LAST 5 YEARS

2020 3rd 2019 4th 2018 6th 2017 9th 2016 6th

TEAM DETAILS

Base Woking, UK

Chassis

MCL35M

Power unit

Mercedes M12 E

Team principal

Andreas Seidl

Technical director

James Key

TEAM HISTORY

Debut Monaco 1966 Races started 880 Wins 182 155 **Poles** Fastest laps 157 **Points** 5,873.5 **Drivers' titles** 12 Constructors' titles









Sebastian Vettel

| Age | 33 |
|---------|------|
| Debut | USA |
| | 2007 |
| Starts | 257 |
| Wins | 53 |
| Podiums | 68 |
| Titles | 4 |

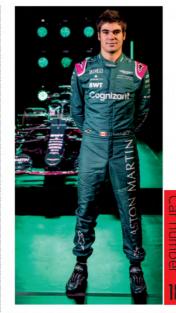
Sergio Pérez wanted to keep this seat because he feels 'Project Stroll' will be a real contender from 2022 onwards. Lawrence wants to make Aston Martin a champion; is prepared to spend, and a close technical collaboration with Mercedes – too cosy some say – means the kit's pretty good too.

The challenge here is that the 'team for everyone' is really the team for Lance Stroll. Vettel is also damaged goods after two chastening seasons at Ferrari. Stroll Sr believes in the value of Vettel's champion pedigree – but that only stretches so far. Seb should get a nice company car though...

GP RACING VERDICT

Vettel has a great record, but is he still a great driver? The RP20 looked easier to drive than the SF1000, so results should improve.





Lance Stroll

| Age | 22 |
|-------------|-------------|
| Debut | Australia |
| | 2017 |
| Starts | 78 |
| Best result | 3rd |
| Podiums | 3 |
| Best season | 11th (2020) |

Looks interested again now he's got his hands on a decent car, and 2020 Turkish GP qualifying reminded F1 what he can do when in confident mood. But that confidence is fragile, so consistency still proves elusive.

Stroll is the driving equivalent of Hitech from 2009's British Formula 3 championship, when team owner Walter Grubmuller Sr justified unsustainable budgets by saying spending millions more was necessary to challenge the skill of the crack Carlin team running Daniel Ricciardo to the title.

Without Daddy's money, is Stroll Jr good enough to be here? Answers on a postcard.

GP RACING VERDICT

Stroll needs to show Vettel a clean pair of heels if he wants anything more than a nepotistic future in F1.



KEY ASTON MARTIN STATS SIXTH THE BEST FINISH FOR AN ASTON MARTIN IN F1 KEY ASTON MARTIN STATS SIXTH JOYEARS SINCE THIS TEAM, AS JORDAN, MADE ITS F1 DEBUT

TEAM STATS

2020 RESULTS*

| Position | 4th | |
|--------------|-----|-----------|
| Points | 195 | Point |
| Wins/podiums | 1/3 | cing F |
| Poles | 1 | Rac |
| Fastest laps | 0 | *as |

LAST 5 YEARS

| 2020* | 4th | |
|--------|-----|----------------|
| 2019* | 7th | India Point |
| 2018* | 7th | |
| 2017** | 4th | ~ |
| 2016** | 4th | **as |
| | | |

TEAM DETAILS

Base

Silverstone, UK

Chassis

AMR21

Power unit

Mercedes M12 E

Team principal

Otmar Szafnauer **Technical director**

Andrew Green

TEAM HISTORY

| TLAWITISTORT | |
|-----------------|---------|
| Debut | Holland |
| | 1959 |
| Races started | 5 |
| Wins | 0 |
| Poles | 0 |
| Fastest laps | 0 |
| Points | 0 |
| Drivers' titles | 0 |
| Constructors' | |
| titles | 0 |







Fernando Alonso

Age 39 **Debut** Australia 2001 311 **Starts** Wins 32 **Podiums** 65 **Titles** 2

Guess who's back, back again... He managed to (largely) stay away for two years but has been working on this comeback since late-2019, having kept tabs on developments within his spiritual home of 'Team Enstone'.

You know what you're going to get with Alonso: relentless racing on the track and relentless pressure to improve the car off it. If noses must be put out of joint along the way, so be it.

Alonso has already urged Renault/Alpine to write 2021 off to focus on F1's all-new 2022 technical regulations, which may mean this season gets tougher as it goes along.

GP RACING VERDICT

Alonso's pushing 40, but he's still got it. He'll be looking to do everything Ricciardo did last year with this car (podiums), plus a bit more.





Esteban Ocon

24 Age **Debut** Belgium 2016 **Starts** 67 Best result 2nd **Podiums** 1 Best season 8th (2017)

Faces the sternest challenge yet of his F1 career going up against Alonso, who ate Stoffel Vandoorne for breakfast at McLaren and will fancy his chances again.

Ocon was once highly rated by Mercedes, being the man who beat Max Verstappen to the 2014 European F3 title, but it seems that ship has sailed now George Russell has made himself Mercedes' 'first reserve'.

Although clearly quick, Ocon is prone to hot-headedness, and he was not definitively better than Sergio Pérez at Force India, nor able to threaten Ricciardo last year, so beating Alonso will be difficult.

GP RACING VERDICT

starts by

Fernando

Alonso in

spell's with

this team

Will do well not to get eaten alive by Alonso but could score some decent results if he maintains his late-2020 momentum.



KEY ALPINE STATS different world champions since Alonso and Renault's last title in 2006

NINETY MORE POINTS two previous **SCORED IN 2020 THAN IN 2019**

TEAM STATS

| 202 | 2U | K | E5 | UL | 15^ |
|-----|----|---|----|----|-----|
| | | | | | |

Position 5th **Points** 181 0/3 Wins/podiums **Poles** Fastest laps

LAST 5 YEARS

2020* 5th 2019* 5th 4th 2018* 2017* 6th 2016* 9th

TEAM DETAILS

Bases Enstone, UK & Viry, France

Chassis

A521

Power unit

Renault E-Tech 20B

Racing director

Davide Brivio

Technical director

Pat Fry

TEAM HISTORY

Debut Britain 1977 Races started 400 Wins 35 Poles 51 Fastest laps 33 1,777 **Points Drivers' titles** 2 Constructors' titles

Starts

Charles Leclerc

Age

Debut Australia 2018

59

Wins 2 **Podiums** 10

Best season 4th (2019)

For those who doubted Leclerc's talent. based on Ferrari's 2019 engine being unfairly too powerful and thus helping him look better than he was in reality, last season should dispel those doubts.

Leclerc was relentless - dragging a car barely fast enough for Q3 to some incredible results, causing Vettel to question the equality of the equipment, and evoking Gilles Villeneuve with some flamboyant driving.

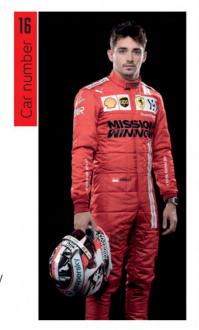
Yes, Leclerc was over-aggressive at times - but as Max Verstappen will tell you, when the car's lacking speed you must live closer to the edge. Ferrari needs to do better.

GP RACING VERDICT

KEY FERRARI STATS

Must bide his time while Ferrari rebuilds, but is quick enough to win the title if and when the Scuderia finally comes good again.

CHAMPIONSHIP





Carlos Sainz

Age 26 Australia **Debut** 2015

Starts 118 Best result 2nd **Podiums** 2

Best season 6th (2019/2020)

A huge break for Sainz, despite Ferrari's current woes. It looked as though the top team ship had sailed, after Red Bull strung him along and Renault refused to buy him then spent big on Daniel Ricciardo instead.

But golf with Zak Brown changed things, and after two seasons helping McLaren rebuild Sainz gets his chance. Leclerc will be his biggest challenge since Verstappen, but don't underestimate Sainz's all-round game.

He was almost Verstappen-fast at Toro Rosso, is mega in the wet, technically astute - and knows how to get along with his teams and team-mates..

GP RACING VERDICT

A shrewd signing for Ferrari, Sainz should offer real value - but will need his wits about him going up against Leclerc.



Ihree THE LAST TIME FERRARI FINISHED LOWER THAN 6TH IN The number of times Sebastian THE CONSTRUCTORS'

Vettel made it into Q3 in 2020

TEAM STATS

2020 RESULTS

Position 6th **Points** 131 Wins/podiums 0/3 **Poles** 0 Fastest laps 0

LAST 5 YEARS

2020 6th 2019 2nd 2018 2nd 2017 2nd 2016 3rd

TEAM DETAILS

Base Maranello, Italy

Chassis

SF21

Power unit

Ferrari 066

Team principal

Mattia Binotto

Enrico Cardile

Technical director

TEAM HISTORY

Monaco Debut 1950 1008 Races started Wins 238 **Poles** 228 Fastest laps 254 **Points** 9,290.27 15 **Drivers' titles**

Constructors' titles

16



Pierre Gasly

Age 25 **Debut** Malaysia 2017

Starts 64 Wins 1 1 **Podiums**

Best season 7th (2019)

Here is a case study in how to rebuild confidence and thrive in the right environment. Gasly was among Fl's most outstanding performers in 2020, after being demoted by Red Bull, though Daniil Kvyat gave him a harder time in the later races, once comfortable with his car's steering.

The question now is: what next? Red Bull seems uninterested in bringing Gasly back in from the cold, so how to avoid a fate such as Jean-Éric Vergne's, or Kvyat's? When the rebuilding is complete, Gasly will likely need to forge his own, Sainz-esque path to have a longer future in Formula 1.

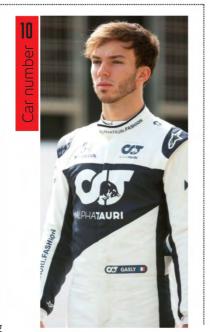
GP RACING VERDICT

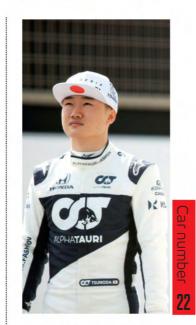
Needs to build on 2020 to stay in F1's shop window and avoid being Red Bull's latest perpetual junior-driver yardstick.

> years since a Japanese

driver raced

KEY ALPHATAURI STATS





RETIREMENTS

FOR THE TEAM

Yuki Tsunoda

Age **Debut** Bahrain 2021 **Starts** N/A Best result N/A **Podiums** N/A Best season N/A

It looks like a sop to outgoing engine partner Honda for Red Bull to stick a Japanese driver in one of its cars, but Helmut Marko is enthused by Tsunoda's progress in the junior categories, where he drove for Trevor Carlin and so impressed the team boss that favourable comparisons were made with one Max Verstappen...

Tsunoda's chief strength is his ability to rapidly learn and understand new cars. He finished third in F2 in 2020 as a rookie, having only previously done one full season of F3 and two years in Japan's equivalent of F4. With so little testing available, this propensity will be stretched to its limit.

GP RACING VERDICT

The most exciting thing to come out of Japan for F1 since Kamui Kobayashi.



26 laps led by Pierre Gasly at Monza for

TEAM STATS

2020 RESULTS **Position** 7th 107 **Points** Wins/podiums 1/0 **Poles** 0 **Fastest laps** 0

LAST 5 YEARS

| 2020 | 7th | |
|-------|-----|-------|
| 2019* | 6th | Rosso |
| 2018* | 9th | _ |
| 2017* | 7th | Toro |
| 2016* | 7th | *as |

TEAM DETAILS

Base Faenza, Italy

Chassis

AT02

Power unit

Honda RA621H Team principal

Franz Tost

Technical director

Jody Egginton

TEAM HISTORY

| Debut | Austria |
|-----------------|---------|
| | 2020 |
| Races started | 17 |
| Wins | 1 |
| Poles | 0 |
| Fastest laps | 0 |
| Points | 107 |
| Drivers' titles | 0 |
| Constructors' | |
| titles | 0 |
| | |





'as Sauber





Kimi Räikkönen

 Age
 41

 Debut
 Australia

 2001
 329

 Wins
 21

 Podiums
 82

 Titles
 1

Like some sort of endless Indian Summer, Räikkönen's F1 career goes on and on. Too limited by understeer to be considered an absolute top liner these days, Kimi's still incredibly skilled, and now F1's oldest and most experienced driver.

Räikkönen's vast knowledge, incredible feel for the tyres and precise technical feedback offer considerable value to a team like Alfa, which is still building back towards competitiveness after the desolation of the later Sauber years. Kimi's also still a useful reference against which Ferrari can measure its driver academy products.

GP RACING VERDICT

Great character and still capable of utter genius – see Portimão 2020, lap one – but not as quick or consistent as he used to be.





Antonio Giovinazzi

 Age
 27

 Debut
 Australia

 2017

 Starts
 40

 Best result
 5th

 Podiums
 0

Best season 17th (2019/2020)

For a while it looked like this seat would go the way of Michael Schumacher's son, but Haas budget woes and the subsequent decision to forge closer ties with Ferrari, while binning both of last season's drivers, means Mick heads there and Giovinazzi keeps his seat for another season.

He says he's learning a lot from Räikkönen, and Giovinazzi is definitely making progress – with his starts especially. He narrowly lost the internal qualifying battle in 2020, and equalled Kimi's points tally. But he needs to do more than match Räikkönen to have a long-term future in F1.

GP RACING VERDICT

A decent driver, but he's 27 now and hasn't been quick enough compared to Räikkönen to justify a move further up the grid.



KEY ALFA ROMEO STATS FORTY-TWO WILL BE KIMI RÄIKKÖNEN'S AGE BY THE END OF THE 2021 SEASON laps raced by the team last season

TEAM STATS

2020 RESULTS

Position8thPoints8Wins/podiums0/0Poles0Fastest laps0

LAST 5 YEARS

 2020
 8th

 2019
 8th

 2018
 8th*

 2017
 10th*

 2016
 10th*

TEAM DETAILS

Base Hinwil, Switzerland **Chassis**

C41

Power unit Ferrari 066

Team principalFrédéric Vasseur **Technical director**

Jan Monchaux

TEAM HISTORY

Debut Britain 1950 Races started 150 Wins 10 Poles 12 Fastest laps 14 **Points** 279 **Drivers' titles** 2 Constructors' 0 titles







Podiums

Best season

Mick Schumacher

Age 21 **Debut** Bahrain 2021 N/A **Starts** Best result N/A

What's in a name? Well, we're about to find out - though it may take until at least 2022 to get a proper handle on how Michael's lad stacks up, as his junior record suggests he tends to spend a season figuring things out before kicking on and achieving anything.

N/A

N/A

Whether that points to weakness or, as Carlos Sainz suggested, is irrelevant given Mick is a champion of European Formula 3 and Formula 2, remains to be seen.

But with Haas in the trough of its first competitive slump, the timing is ideal for Schumacher to graduate to F1 with lower expectations and less pressure.

GP RACING VERDICT

With his family history there is nowhere to hide. Needs to impress given Ferrari is watching closely.





Nikita Mazepin

22 Age **Debut** Bahrain 2021 N/A **Starts** Best result N/A **Podiums** N/A Best season N/A

Not many drivers cause such outrage in F1 before they've even started a race, so Mazepin begins his career with a cloud of impropriety hanging over him - despite efforts to make the noise go away.

Setting his off-track behaviour to one side, here's a kid with impressive karting pedigree and a modest junior single-seater track record – again overshadowed by some beyond-the-pale driving, and once punching Ferrari junior Callum llott in parc fermé.

Another to reach F1 primarily via their family's riches, whatever your feelings about Mazepin he's certainly not dull.

GP RACING VERDICT

Craves rear-end stability and predictability, so could be in for a tough time if the Haas remains as recalcitrant as it was in 2020.



KEY HAAS STATS

The team's highest 2020 Q1 performance by Kevin Magnussen at the Eifel GP

TWO AND EIGHTEEN

THE NUMBER OF POINTS **FINISHES FOR HAAS IN 2020 COMPARED WITH ITS BEST SEASON OF 2018**



TEAM STATS

2020 RESULTS

Position 9th 3 **Points** Wins/podiums 0/0 **Poles** 0 Fastest laps

LAST 5 YEARS

2020 9th 2019 9th 2018 5th 2017 8th 2016 8th

TEAM DETAILS

Base Banbury, UK; Varano, Italy; Kannapolis, USA,

Chassis

VF-21

Power unit

Ferrari 066

Team principal Guenther Steiner

Chief designer

Simone Resta

TEAM HISTORY

Debut Australia 2016 100 Races started Wins 0 **Poles** 0 2 Fastest laps **Points** 200 **Drivers' titles** Constructors' titles 0



George Russell

Age 23

Debut Australia

2019 38

Starts 38
Best result 9th
Podiums 0

Best season 18th (2020)

After two years of quietly stunning performances in back-of-the-grid machinery, Russell showcased his true ability with that incredible cameo in Lewis Hamilton's Mercedes at the Sakhir GP. By rights, Russell should already be a grand prix winner.

Back to the grind now, though, while he waits for Bottas to get flicked. At least Williams is getting its act together again, which should translate into a few more marginal qualifying and lower points scoring battles. They can prove useful in refining a driver's craft under pressure, and Russell still has one or two creases to iron out.

GP RACING VERDICT

The best thing about Williams since he joined. Let's face it, Russell is wasted in this car and should be promoted ASAP.





Nicholas Latifi

 Age
 25

 Debut
 Austria

 2020

 Starts
 17

 Best result
 11th

 Podiums
 0

 Best season
 21st (2020)

The son of a billionaire Iranian-Canadian food magnate, Latifi only really got serious about his motor racing in 2016 after graduating to GP2 with DAMS.

Latifi showed himself to be a competent race winner in F2, and impressed Williams with his work ethic and attitude after replacing Lance Stroll, but has yet to set F1 alight with truly impressive performances.

2020's only rookie is on a steep learning curve, made steeper by the COVID-19 pandemic, but he has a strong benchmark against which to measure himself. In Latifi's words, Russell is "no slouch".

GP RACING VERDICT

Nice kid with a good attitude who brings reliable funding to Williams, but unlikely to set the racetrack alight.



TWENTY-SEVEN CONSECUTIVE RACES WHERE THE TEAM HAS FAILED TO SCORE A WORLD CHAMPIONSHIP POINT THE Iast year a Williams car led a race

TEAM STATS

2020 RESULTS

Position10thPoints0Wins/podiums0/0Poles0Fastest laps0

LAST 5 YEARS

 2020
 10th

 2019
 10th

 2018
 10th

 2017
 5th

 2016
 5th

TEAM DETAILS

Base Grove, UK

Chassis FW43B

Power unit

Mercedes M12 E

Team principal

Simon Roberts

Technical directorDoug McKiernan

TEAM HISTORY

Debut Argentina 1975 Races started 749 Wins 114 **Poles** 128 Fastest laps 133 **Points** 3,567 **Drivers' titles** 7 Constructors' 9 titles





But in 2021, the Spaniards will have even more to cheer about. Sainz will take to the track with his new Ferrari team, while his compatriot Alonso makes a welcome return to the sport.

And it's a circuit that's likely to rise to the occasion. 2016 delivered one of the season's great storylines as teammates Lewis Hamilton and Nico Rosberg took each other out on lap one, opening the door for a certain Max Verstappen to take victory in his first race for Red Bull.

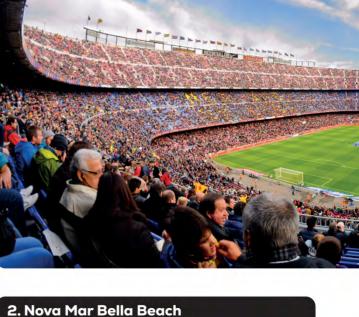
What's more, there's just as much for racegoers to enjoy away from the track as there is on it. One of the culture capitals of the world, there's stunning architecture to admire, beaches to relax on, and an incredible atmosphere to soak up in the sun.

We've picked five must-see sights for a long weekend in Barcelona, so you can make the most of your Grand Prix experience.





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Barcelona is a rare example of a major city with sunny beaches to relax by. Most tourists head for the central Barceloneta Beach – which is the largest in the city. If you're willing to venture a few blocks to the north, though, you'll find some quieter, but equally tranquil beaches to relax by.



Don't settle for your only experience of authentic Spanish food being a stroll around a foreign supermarket. The Mercat de la Boqueria is where you'll find a true taste of Spain and Barcelona. If you're staying in an apartment or camping near the circuit, this is where you'll want to shop for authentic Spanish ham and meats, fresh fruit and veg, and delicious fish. It claims it's the 'best market in the world'... and there's only one way to find out.

4. Palacio del Flamenco

If Barcelona had a soundtrack, if would be flamenco. The genre became popular in Spain in the 18th century, with 'tablaos flamencos' taking off in the 20th century. Here, dancers and musicians would improvise and use the dance to express themselves, and they later evolved into cafés for the public to gather and enjoy. Palacio del Flamenco is one of the best venues you can gather for dinner and an authentic show – but be sure to book early to avoid disappointment.



1. Camp Nou

FC Barcelona are hailed as one of the world's all-time great football clubs. And they play in an arena fit for that title. The 100,000-capacity stadium is the biggest in Europe, and has been the stage for some of the sport's greatest matches.

Tours of the ground include visits to the changing rooms, to see where the likes of Lionel Messi get psyched before a match, and a walk along the pitch – including the chance to get the manager's view from the first team dugout. Football aficionados will enjoy perusing the museum, which showcases the countless trophies the team has won over its 120-year history.



5. Sagrada Familia

NOTERETO
WHERE TO
W

It's hard to go more than five minutes in Barcelona without stumbling across one of Antoni Gaudi's architectural masterpieces. But La Sagrada Familia is surely a grand attraction. Towering over the city, the unfinished basilica has been 138 years in the making, due to be completed in 2026. It's one of the sights to remember of any trip to Barcelona, but if you're after that perfect photo, head to the rooftop bar at nearby Hotel Ayre, where you can enjoy a drink while admiring the intricate designs.

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(Prices correct at time of publication)

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- Popular Grand Prix
- Home race for Alonso and Sainz

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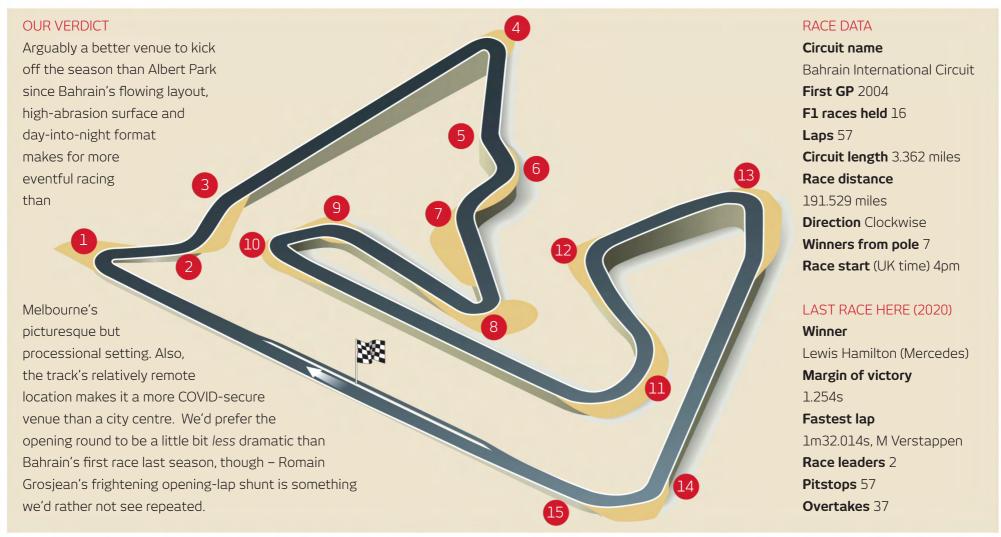


Scan with your phone's camera to book your tickets.





ROUND 1/23 Bahrain Sakhir, 26-28 March





ROUND 2/23

Emilia Romagna Imola, 16-18 April

RACE DATA

Circuit name

Autodromo Enzo e Dino Ferrari

First GP 1980

F1 races held 28

Laps 63

Circuit length 3.050 miles

Race distance 192.03 miles

Direction Anticlockwise

Winners from pole 9

Race start (UK time) 2pm

LAST RACE HERE (2020)

Winner

Lewis Hamilton (Mercedes)

Margin of victory

5.783s

Fastest lap

1m15.484s, L Hamilton

Race leaders 2

Pitstops 30

Overtakes 6



OUR VERDICT

Great location, bit of a shame about the track. Imola's return to the calendar last year as a COVID stopgap provided F1 veterans with a delightful opportunity to wallow in nostalgia. Drivers - many of whom hadn't raced here earlier in their careers also relished the challenge of getting to grips with the track, especially since the one-off two-day format meant limited practice time. But there are few opportunities to overtake here, and the race would have been unmemorable but for iffy weather and a late Safety Car delivering a dramatic conclusion.



ROUND 3/23

Portugal Portimão, 30 April-2 May

OUR VERDICT

On the face of it, a win from pole for Lewis Hamilton at this new venue, drafted in to fill the COVID gap last year, doesn't seem like a promising omen. But that doesn't do justice to an eventful race at a venue which endeared itself to F1. An unknown circuit - freshly resurfaced at that – led to offset tyre strategies and the unusual sight of Carlos Sainz snatching the lead for McLaren from seventh on the grid. But with all that learning in the data banks and the track surface maturing, will we see such scenes again?



RACE DATA

Circuit name

Autodromo do Algarve

First GP 2020

F1 races held $\boldsymbol{1}$

Laps 66

Circuit length 2.891 miles

Race distance

190.65 miles

Direction Clockwise

Winners from pole $\boldsymbol{1}$

Race start (UK time) TBC

LAST RACE HERE (2020)

Winner

Lewis Hamilton (Mercedes)

Margin of victory

25.592s

Fastest lap

1m18.750s, L Hamilton

Race leaders 3

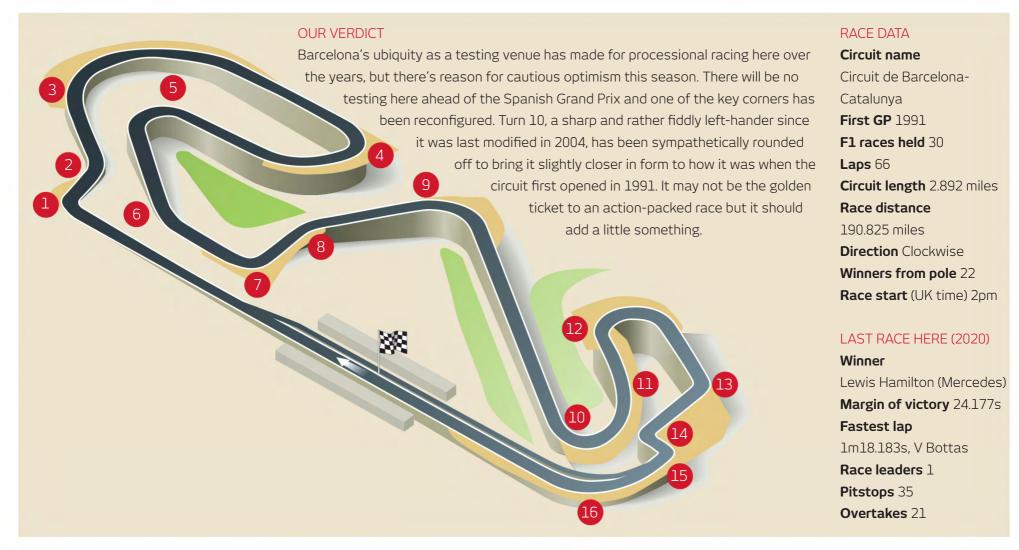
Pitstops 25

Overtakes 58



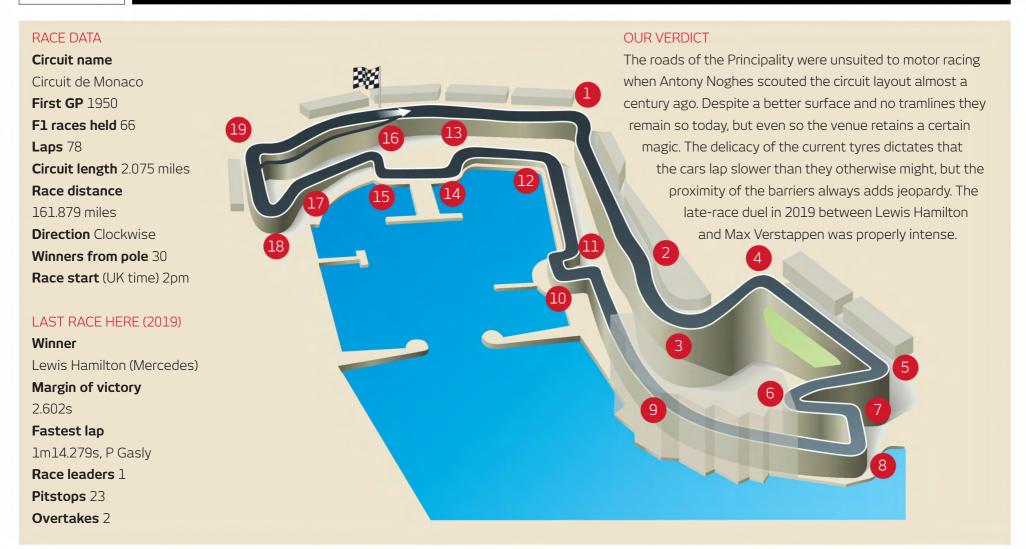
ROUND 4/23

Spain Barcelona, 7-9 May



ROUND 5/23

Monaco Monte Carlo, 20-23 May





ROUND 6/23

Azerbaijan Baku, 4-6 June

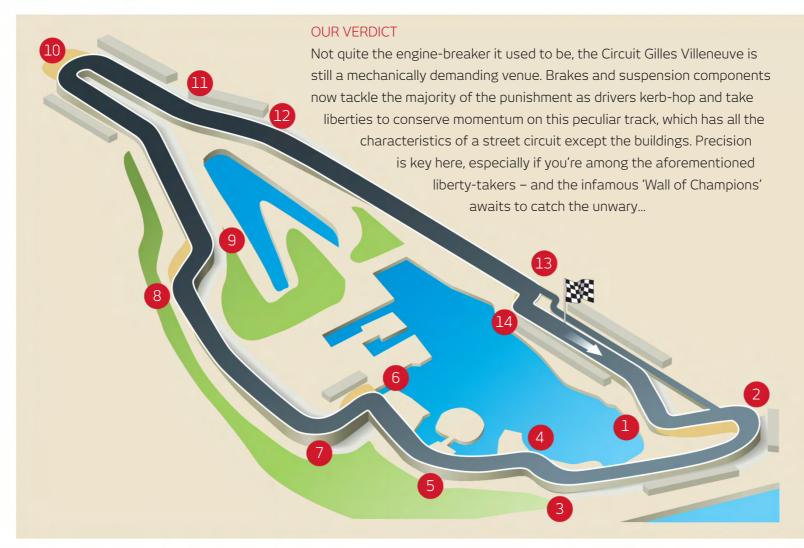
RACE DATA OUR VERDICT Half stop-start street circuit, half max-speed slipstreamer, Baku is Circuit name Baku City Circuit a bizarre cross between Monaco and Monza - and all the better **First GP** 2016 for it. After a muted debut in 2016 (F1's drivers watched the chaos F1 races held 4 unfolding in the support races and resolved not to get involved Laps 51 in similar serial Safety Car periods followed by restart Circuit length 3.730 miles shunts), Azerbaijan's GP has become a race in which Race distance pretty much anything can happen. 190.170 miles **Direction** Anticlockwise Winners from pole 2 Race start (UK time) 1pm LAST RACE HERE (2019) Winner Valtteri Bottas (Mercedes) Margin of victory 1.524s Fastest lap 1m43.009s, C Leclerc Race leaders 3



Pitstops 26
Overtakes 50

ROUND 7/23

Canada Montréal, 11-13 June



RACE DATA

Circuit name

Circuit Gilles Villeneuve

First GP 1978

F1 races held 40

Laps 70

Circuit length 2.709 miles

Race distance

189.685 miles

Direction Clockwise

Winners from pole 19

Race start (UK time) 7pm

LAST RACE HERE (2019)

Winner

Lewis Hamilton (Mercedes)

Margin of victory

3.658s

Fastest lap

1m13.078s, V Bottas

Race leaders 3

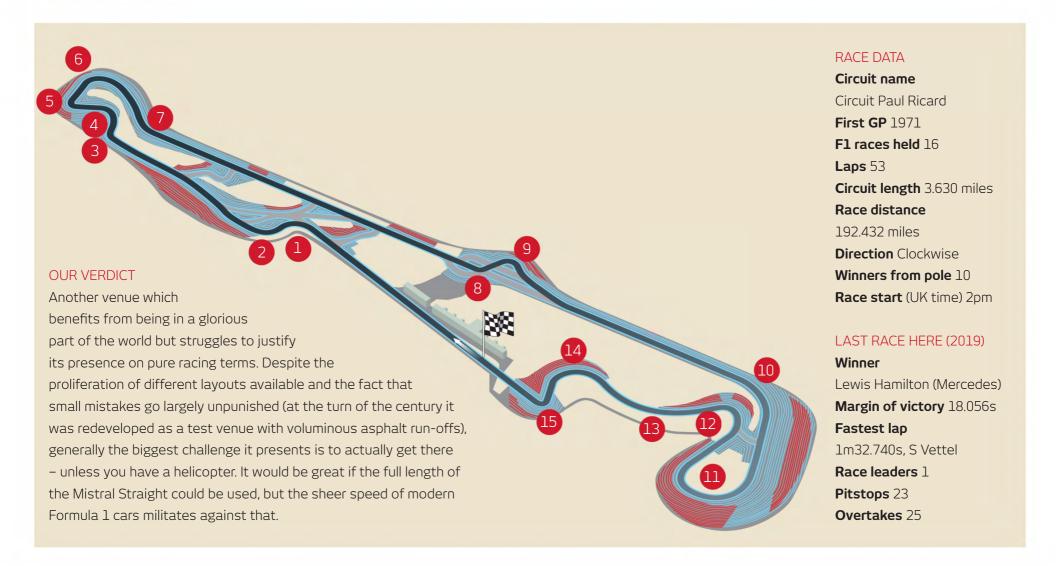
Pitstops 22

Overtakes 28



ROUND 8/23

France Paul Ricard, 25-27 June



ROUND 9/23 Austria Red Bull Ring, 2-4 July

RACE DATA

Circuit name

Red Bull Ring

First GP 1970

F1 races held 34

Laps 71

Circuit length 2.688 miles

Race distance

190.848 miles

Direction Clockwise

Winners from pole 11

Race start (UK time) 2pm

LAST RACE HERE (2020)

Winner

Lewis Hamilton (Mercedes)

Margin of victory

13.719s

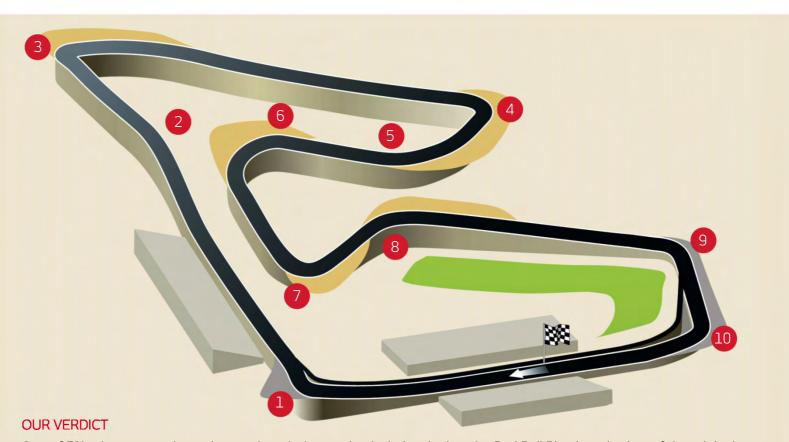
Fastest lap

1m05.619s, C Sainz

Race leaders 2

Pitstops 21

Overtakes 45



One of F1's shortest tracks and, even though the received wisdom is that the Red Bull Ring is a shadow of the original Österreichring, it's made for helter-skelter racing since it returned in 2014. Solutions to stopping drivers cutting corners have ranged from the controversial (tall 'sausage kerbs' proved too damaging) to the tedious (painting a line on the outside and penalising anyone who strays too far over it). Despite the moaning about track limits, the racing here is genuinely engaging.



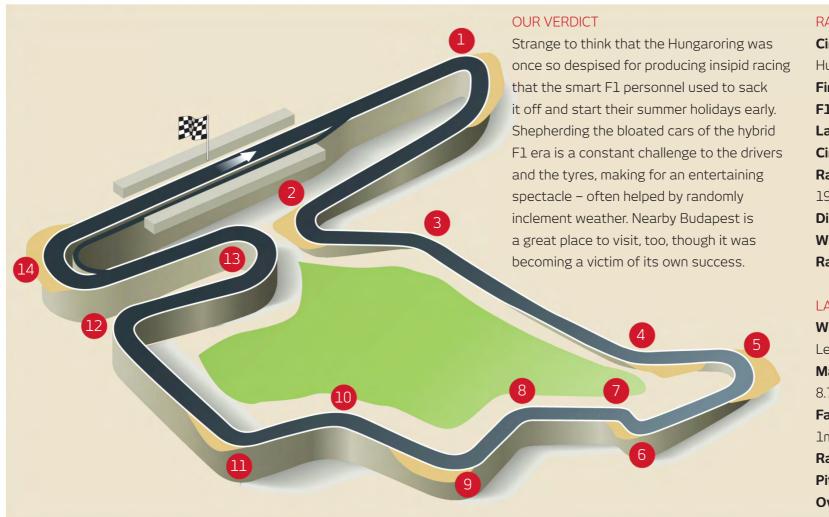


OUR VERDICT

Silverstone is usually a hoot for all concerned thanks to the fast layout and the raceday atmosphere brought by the partisan crowd. Last year the racing was anodyne for the most part, as if the capacity for excitement had been locked out along with the fans. A series of unexpected tyre deflations made for a dramatic end to the British GP, while the second race at the same venue was a more muted affair as everyone defaulted to tyre-conservation mode. It's a shame, really: this is one of the all-time great circuits but it asks too much of the boots available at the moment.

ROUND 11/23

Hungary Hungaroring, 30 July-1 August



RACE DATA

Circuit name

Hungaroring

First GP 1986

F1 races held 35

Laps 70

Circuit length 2.722 miles

Race distance

190.530 miles

Direction Clockwise

Winners from pole 16

Race start (UK time) 2pm

LAST RACE HERE (2020)

Winner

Lewis Hamilton (Mercedes)

Margin of victory

8.702s

Fastest lap

1m16.627s, L Hamilton

Race leaders 2

Pitstops 45

Overtakes 29



ROUND 12/23

Belgium Spa-Francorchamps, 27-29 August

RACE DATA

Circuit name

Circuit de Spa-Francorchamps

First GP 1950

F1 races held 53

Laps 44

Circuit length 4.352 miles

Race distance

191.414 miles

Direction Clockwise

Winners from pole 20

Race start (UK time) 2pm

LAST RACE HERE (2020)

Winner

Lewis Hamilton (Mercedes)

Margin of victory

8.448s

Fastest lap

1m47.483s, D Ricciardo

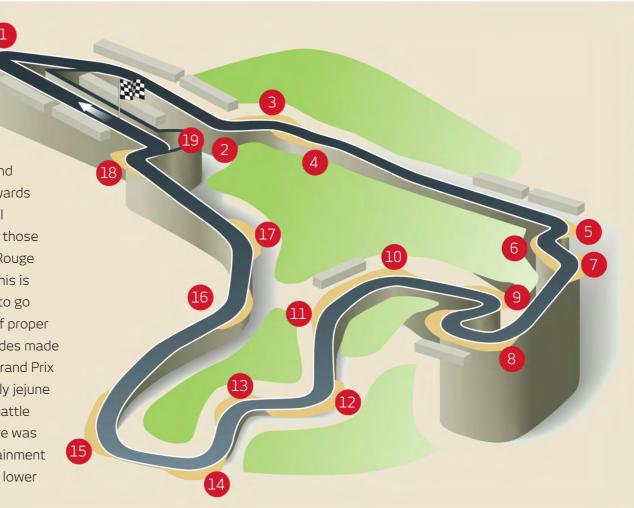
Race leaders 1

Pitstops 20

Overtakes 30

OUR VERDICT A Formula 1 calendar without Spa-Francorchamps simply doesn't

bear thinking about. Steeped in history and still a venue that rewards daring as well as skill and finesse - ignore those who bleat that Eau Rouge is now 'easy-flat' - this is a spectacular place to go motor racing. Lack of proper opposition to Mercedes made last year's Belgian Grand Prix an unrepresentatively jejune blip in terms of the battle for the lead, but there was still plenty of entertainment to be had elsewhere lower down the field.



ROUND 13/23

Netherlands Zandvoort, 3-5 September

OUR VERDICT

It's a welcome return for Zandvoort, whose revival of the Dutch Grand Prix has been delayed by a year owing to the effects of the pandemic. The economics of hosting a race here genuinely depend on having a full house of orange-clad Max Verstappen fans. They'll be here - if they're allowed Remodelled mildly with a banked turn to increase speeds, Zandvoort remains an old-school track with a narrowness that will militate against overtaking - though the September date might bring weather into the equation.



RACE DATA

Circuit name

Circuit Zandvoort

First GP 1952

F1 races held 30

Laps 72

Circuit length

2.646 miles

Race distance 190.542

Direction Clockwise

Winners from pole 12

Race start (UK time) 2pm

LAST RACE HERE (1985)

Winner

Niki Lauda (McLaren)

Margin of victory

0.232s

Fastest lap

1m16.538s, A Prost

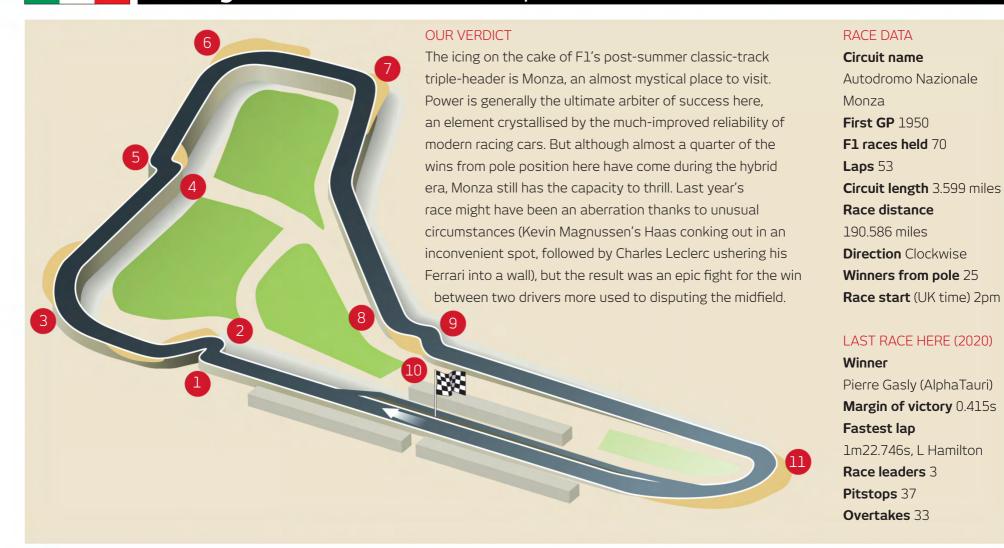
Race leaders 3

Pitstops N/A

Overtakes 46

ROUND 14/23

Italy Monza, 10-12 September



ROUND 15/23

Russia Sochi, 24-26 September

RACE DATA

Circuit name

Sochi Autodrom

First GP 2014

F1 races held 7

Laps 53

Circuit length 3.636 miles

Race distance

192.708 miles

Direction Clockwise

Winners from pole 2

Race start (UK time) 1pm

LAST RACE HERE (2020)

Winner

Valtteri Bottas (Mercedes)

Margin of victory

7.729s

Fastest lap

1m37.030s, V Bottas

Race leaders 2

Pitstops 24

Overtakes 24

OUR VERDICT

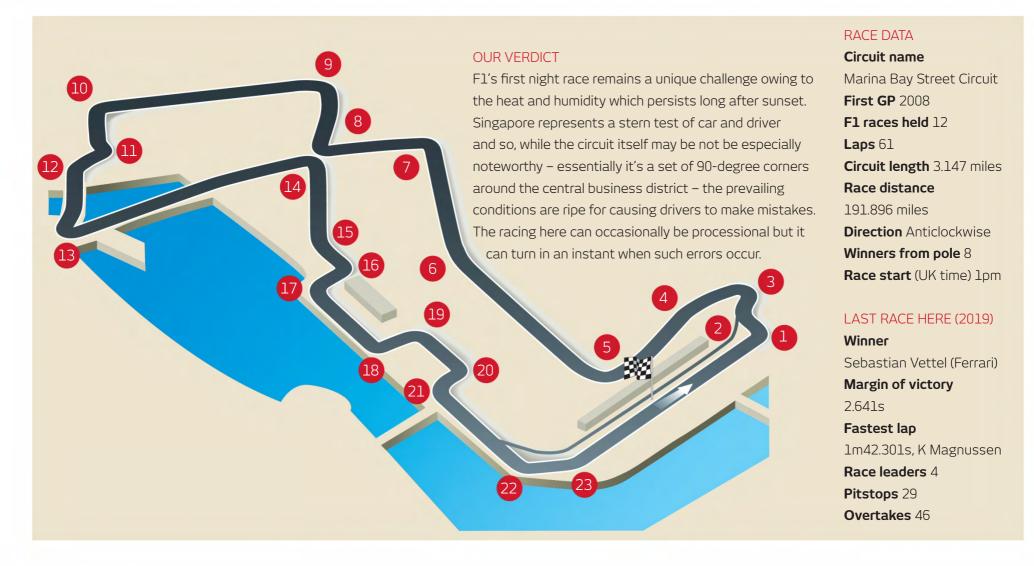
Indisputably F1's least popular venue - one gets the impression that very few people in the area can be bothered with the whole thing until Vladimir Putin puts in his inevitable race day appearance, whereupon it's all hands on deck. Nevertheless it has made for sporadically interesting racing thanks to the low-grip track surface and the long run to the first meaningful corner, which often puts the polesitting driver at a disadvantage.





ROUND 16/23

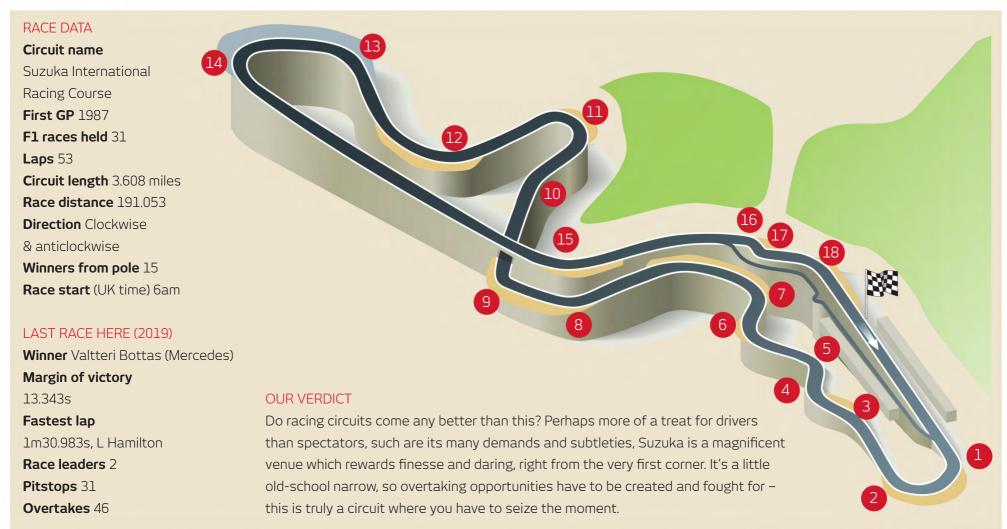
Singapore Marina Bay, 1-3 October





ROUND 17/23

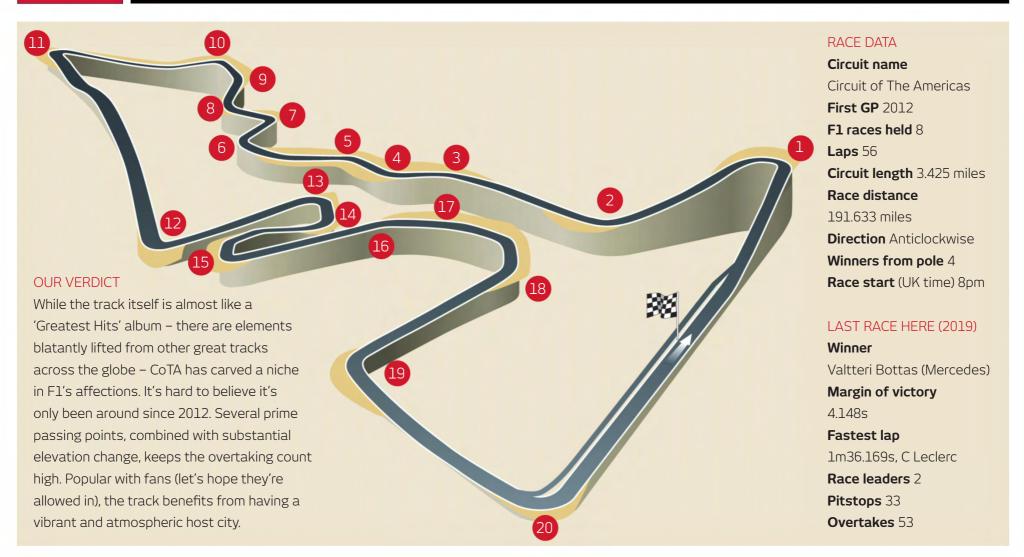
Japan Suzuka, 8-10 October





ROUND 18/23

USA Austin, 22-24 October





ROUND 19/23

Mexico Mexico City, 29-31 October

RACE DATA

Circuit name

Autódromo Hermanos Rodríguez

First GP 1963

F1 races held 20

Laps 71

Circuit length 2.674 miles

Race distance 189.88 miles

Direction Clockwise

Winners from pole 9

Race start (UK time) 7pm

LAST RACE HERE (2019)

Winner

Lewis Hamilton (Mercedes)

Margin of victory

1.766s

Fastest lap

1m19.232s, C Leclerc

Race leaders 3

Pitstops 27

Overtakes 36





ROUND 20/23

São Paulo Interlagos, 5-7 November

RACE DATA

Circuit name

Autódromo José Carlos Pace

First GP 1973

F1 races held 37

Laps 71

Circuit length 2.677 miles

Race distance

190.082 miles

Direction Anticlockwise

Winners from pole 16

Race start (UK time) 5pm

LAST RACE HERE (2019)

Winner

Max Verstappen (Red Bull)

Margin of victory

6.077s

Fastest lap

1m10.698s, V Bottas

Race leaders 3

Pitstops 45

Overtakes 52



Let's face it, there was no need to rip up the last remaining bit of rainforest in Rio de Janeiro so long as Interlagos was capable of hosting a grand prix. It's easy to forget that this spectacular, undulating speedbowl is among the shorter tracks on the calendar. A change of promoter - one that's actually paying for the privilege nowadays - has wrought a change of official title but whatever it says on the cover of the race programme, Brazil's grand prix will be exactly what it's always been: vibrant and dramatic.



ROUND 21/23 Australia Melbourne, 19-21 November



RACE DATA

Circuit name Albert Park

First GP 1996 F1 races held 24

Laps 58

Circuit length 3.295 miles

Race distance

191.117 miles

Direction Clockwise

Winners from pole 9

Race start (UK time) 6am

LAST RACE HERE (2019)

Winner

Valtteri Bottas (Mercedes)

Margin of victory

20.886s

Fastest lap

1m25.580s. V Bottas

Race leaders 2

Pitstops 22

Overtakes 10



ROUND 22/23

Saudi Arabia Jeddah, 3-5 December

RACE DATA

Circuit name

TBA

First GP 2021

F1 races held 0

Laps TBA

Circuit length

TBA

Race distance

TBA

Direction TBA

Winners from pole N/A

Race start (UK time) 4pm



OUR VERDICT

Given F1's sponsorship by Saudi Arabian state-owned petrochemical company Aramco, it was inevitable that the Kingdom would someday host an event. This first race will be held on a street circuit in Jeddah, before moving to a purpose-built street circuit in future years. When Formula E hosted a race in Diriyah, poor camera angles made the location look like a building site rather than a picturesque suburb of Riyadh. Hopefully the waterside location planned for Jeddah will be better exploited...



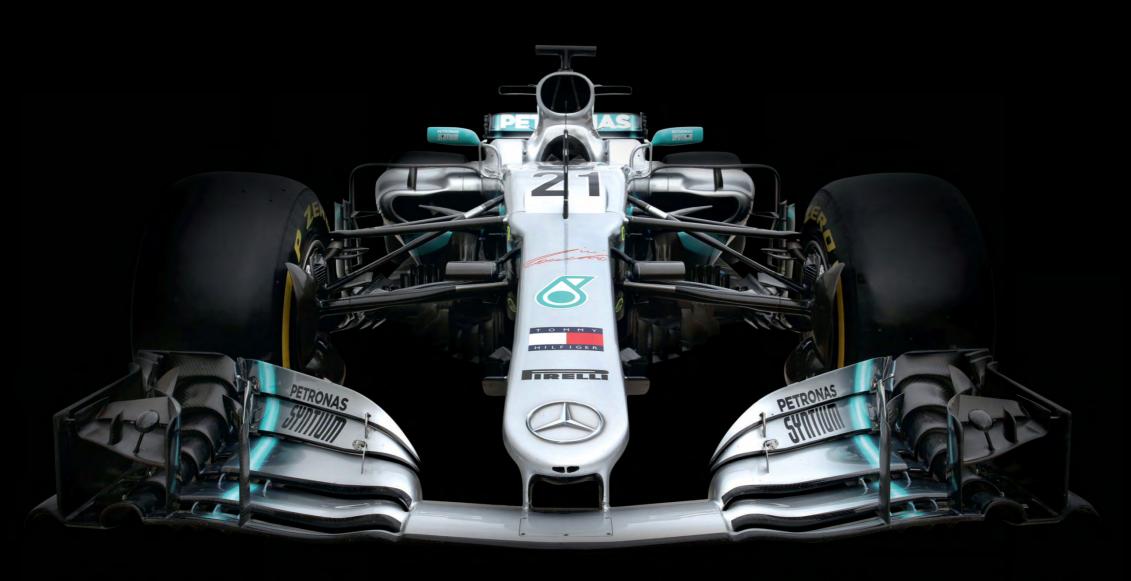
ROUND 23/23

Abu Dhabi Yas Marina, 10-12 December



The 'diva' that set the stage for the wide-bodied Formula 1 era **PETRONAS** IWC SCHAFFHAUSEN

NOW THAT WAS PETRON AS A Car NO. 96 Words Stuart Codling Pictures James Mann TRELLI



ext year a radically different technical formula – many details of which are still frustratingly undefined – promises to usher in a new era of on-track drama. The vision of a cost-controlled formula enabling a level playing field, populated by exciting but closely matched machinery, sounds positively utopian.

As the wide-body era of Formula 1 draws to a close after five seasons, it's worth remembering how the present technical formula was born of a similarly lofty ambition to shake up the competitive order – and how a group of F1's smartest engineering operators pulled together to thwart that goal.

Seen through the prism of the record books, the 2017 Wo8 is just one of a run of victorious Mercedes F1 cars, but it



"LIKE ITS KEY RIVALS, MERCEDES FOCUSED ON ADVANCING ITS 2016 CONCEPT SO IT COULD TAPER DEVELOPMENT IN FAVOUR OF THE NEXT CAR AS EARLY AS POSSIBLE "



represents a pivotal moment in the hybrid era — one where the rule-makers tried to snuff out Mercedes' dominance but botched the hit. Moves to put the brakes on Mercedes' runaway performance began as early as the winter of 2014-15, just one season into the hybrid engine formula. Among the noisiest objectors was Bernie Ecclestone, who loathed the muted volume of the hybrid powertrains and demanded action to make the cars look and sound faster and more dramatic.

This being F1, though, the only thing the tempestuous stakeholders could agree upon was the desired outcome of pegging Mercedes back. Of a clear strategy to reach this point there was no sign, merely a grab-bag of competing pie-in-thesky proposals, set against the increasingly repetitive mood music of sundry Red Bull bigwigs warning that the energy drinks empire would quit F1 unless its demands were granted.

Achieving any kind of consensus took more than a year, by which time talk of loosening the fuel-conservation restrictions to enable the engines to develop well over 1000bhp had been nipped in the bud. Wisely, too, for it was unlikely Pirelli would have been able to develop tyres to cope with such outputs, given the teams' inability to agree on who should provide test cars. Also kicked out was the idea of reintroducing refuelling.

Ecclestone's original knee-jerk wishlist of slashing laptimes by up to six seconds through having wider, lighter cars running bigger tyres was also refined, as it dawned on the rulemakers that bigger cars running larger wheels could not be made any lighter without compromising safety. The final wording of the new regulations wasn't agreed until late April 2016, scant weeks before teams would begin work on designing their 2017 cars. Among the headline dilutions was the halving of the originally proposed laptime reduction, and on top of that there was a capitulation to the inevitable: rather than going down, minimum weight would have to go *up*, from 702kg to 722kg "plus tyres" (reckoned to be 6kg).

Like its key rivals, Mercedes focused on advancing its 2016 concept so it could taper development in favour of the next car as early as possible. It also, in the words of chief designer John Owen, envisioned the Wo8 as "a 90% car", one whose initial form was deliberately packaged far less tightly than normal so

key components could be relocated if necessary as aerodynamic development progressed.

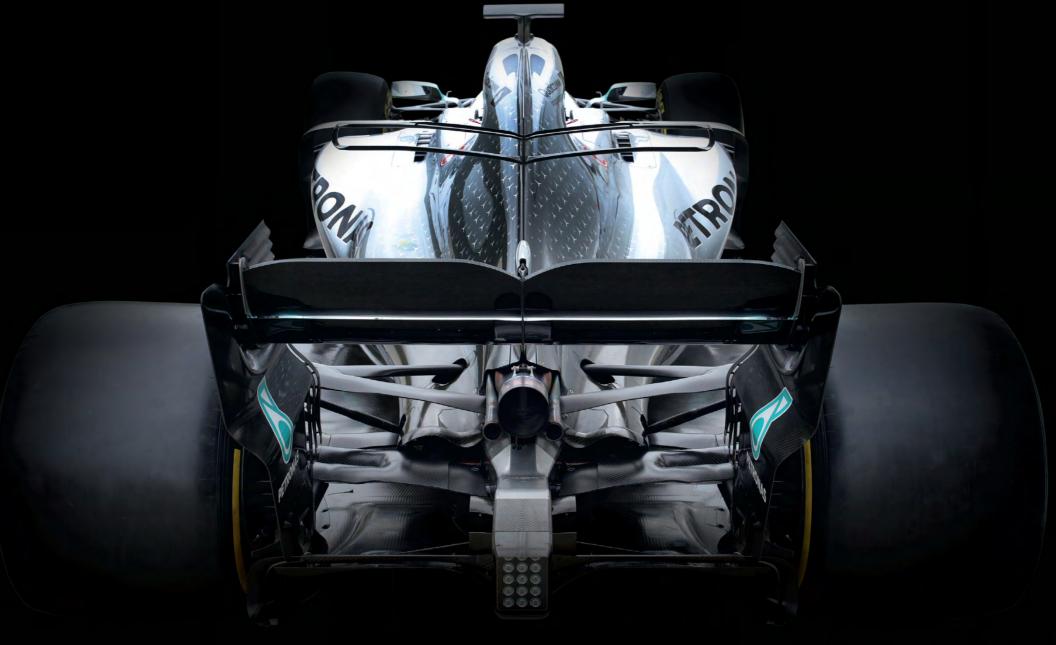
It was the multi-element nature of the new rules which

It was the multi-element nature of the new rules which dictated this policy. The front wing, arguably the single most influential aerodynamic component of the car, grew from 1650mm wide to 1800mm; track grew by 200mm in tandem with wider front (by 60mm) and rear (by 80mm) tyres; minimum car width expanded by 200mm; the 'exclusion zone' ahead of the sidepods grew, offering more scope for bargeboard development; the diffuser could be 50mm higher and begin 175mm further forwards; and the rear wings were 150mm lower and 200mm wider. Each of these changes in isolation would have required detailed research. Introducing them all at once favoured teams with the greatest design resource.

But resource alone doesn't guarantee success. Aerodynamic research is a science, an iterative process grounded in measurement and repeatability. Try to change too much, too soon, and you lose track of cause and effect. To that end Mercedes evaluated key features that were central to its aero philosophy throughout 2016 on the Wo7, including the narrow nose treatment which would be largely carried over to the Wo8. Having a concrete understanding of how this worked would be crucial to the designers' next steps.

Continuity in this central part of the front wing and nose, and around the floor, was a huge benefit to Mercedes because it's this area which sets up beneficial vortices which accelerate airflow between the nose cone and the front wheels. Other elements of front-wing furniture, ones which grew with the









THAT WAS A CAR No.96

2017 regulations, did have a downforce-generation effect but they also served the purpose of steering air around the front wheels — even more important now those wheels were wider.

The area behind the front wheels would become a key development battleground through 2017 as several teams struggled to simulate the turbulent wake accurately, particularly when steering lock was applied. It was another example of how the new rules amplified the gap between the haves and the have-nots.

Like its rivals, Mercedes only built the floor and sideimpact structures of the Wo8 out to the full width dictated by the regulations, and put the larger area of floor to work as a downforce generator. To benefit the work of the bargeboards and flow conditioners around the cockpit it innovated in the front suspension area, mounting the top wishbone much higher, which required a downswept 'stub' at the tip to reach the wheel hub. Ferrari created similar benefits with a different solution on its SF70H, raising the air intakes out of the wake of the suspension and making the crash structure serve a neat dual purpose, integrated with the flow conditioners which steered air around the sidepods.

Ferrari also scored an early political victory with a well-timed request to the FIA for a 'technical clarification' regarding front suspension systems. Both Mercedes and Red Bull had found a means of reproducing the effect of banned hydraulic technologies which connected the front and rear suspension to control the car's ride height, offering an aerodynamic benefit.

MERCEDES WOB



The new system stored energy from suspension loadings and could redeploy it to move the mountings of the 'heave' spring which governs vertical movement at the front of the car, in effect pre-loading it. Helping the car to ride bumps and kerbs more smoothly delivered clear benefits in terms of enabling the aerodynamic devices to work more consistently. Ferrari's request, including a detailed description of how such a system might work if fitted to its own car, received the unequivocal response that it would contravene the rules. Mercedes and Red Bull duly had to drop theirs before the start of the season.

How much of an effect this had on the Wo8's performance is impossible to tell from an outsider's perspective. But the opening tranche of races in 2017 revealed that the car, while quick, was also frustratingly quirky. It also had to be beefed up after fragile parts broke too easily during winter testing. Occasionally the drivers found it impossible to get all four tyres into the right temperature 'window' to yield peak grip. Team principal Toto Wolff memorably labelled the Wo8 "a diva".

Speaking to *GP Racing* after the season, John Owen put it plainly: "We built a lot of adjustment into the car, the capability to react to things we saw. Unfortunately, most of the things we had to adapt to we hadn't seen coming. So, we carried a lot of compromise through the year for things that didn't need to be changed and we struggled a bit with those that did..."

In Australia Lewis Hamilton, now partnered with Valtteri Bottas after Nico Rosberg's bombshell retirement, put his Wo8 on pole but then lost out to Ferrari's Sebastian Vettel



in a straight fight in the race. The SF70H was as quick as the Wo8 but less aggressive on its tyres; turning around this key weakness became Mercedes' focus as Vettel teased out a slender championship lead over the first half of the season.

Hamilton won in China, Bottas in Russia, then at the Spanish GP Mercedes introduced an upgrade centred around an even narrower nose cone – so narrow that it had to go through the FIA crash test again. The revised aerodynamic concept also featured a 'cape' and winglet on either side of the nose, along with refinements to the bargeboards. Hamilton won from pole but it was still a wrestle, requiring him to pass Vettel for the lead in the final third of the race.

Hamilton was victorious again in Montréal and at Silverstone, while Bottas won in Austria, yet still Vettel kept his nose ahead. The turning point of the season arguably came at Spa-Francorchamps, where Hamilton once again annexed pole and parried every challenge Vettel sent his way. Lewis left Belgium trailing by just seven points, and this would be the last round from which Vettel emerged ahead.

Following a muted performance at Monza Ferrari's season imploded as Vettel and team-mate Kimi Räikkonen collided with Max Verstappen's Red Bull on the first lap in Singapore, then reliability problems pegged Vettel back in Malaysia and Japan. Hamilton put the championship beyond reach with two rounds to go, a scenario which would have seemed unthinkable a few months earlier.

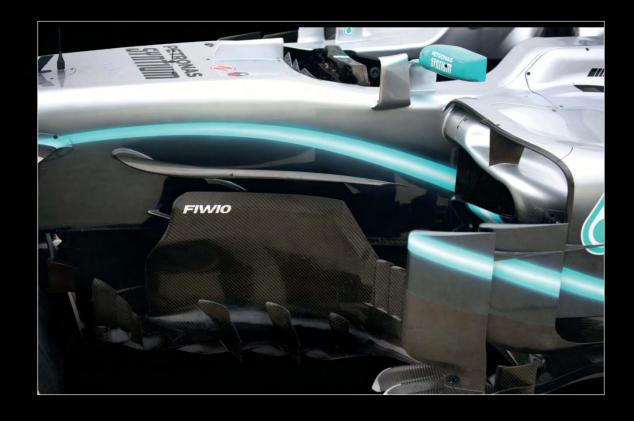
Thus the 'diva' Wo8 ended the season as F1's most successful car, having won 12 of the 20 rounds. Mercedes had withstood the assaults upon its dominance, though a few cracks had shown through. Technical director James Allison spoke of how its successor would be a car which was "easier to throw at a racetrack".

And what of the rulemakers' desired outcome of improving the spectacle? It had been a more dramatic season than several of the preceding ones, but the new cars had made overtaking more difficult rather than easier. Nico Rosberg had predicted this state of affairs as early as April 2016, when he pointed out that reliance on downforce made it harder for cars to get close enough to overtake, so boosting downforce in the name of laptime made no sense.

Wider cars brought both obvious and unintended consequences. It ought to have been clear that overtaking would be harder because they took up more room on track, as Daniel Ricciardo pointed out. Less easily foreseen was the disruptive wake they would leave, making it harder for following cars to draw close in corners – prompting yet another technical rethink within two seasons.

The Wo8, meanwhile, emboldened Mercedes to think bigger and extend its dominance through the remainder of the wide-body era. •

"MERCEDES INTRODUCED AN UPGRADE CENTRED AROUND AN EVEN NARROWER NOSE <u>Cone</u> - <u>So narrow that it had to go through the fia crash test again"</u>



RACE RECORD

Starts 40 Wins 12

Poles 15

Fastest laps 9

Podiums 14

Constructors'

championship points 668

SPECIFICATION

Chassis Carbonfibre monocoque **Suspension** Double wishbones with

inboard pushrod-actuated (front) and pullroad actuated (rear) torsion springs

and rockers

Engine Mercedes-AMG F1 M08 turbocharged hybrid V6

Engine capacity 1600cc

Power 950bhp@15000rpm (est)

Gearbox Mercedes eight-speed semi-automatic

Tyres Pirelli

Weight 728kg (including tyres)

Notable drivers Lewis Hamilton, Valtteri Bottas

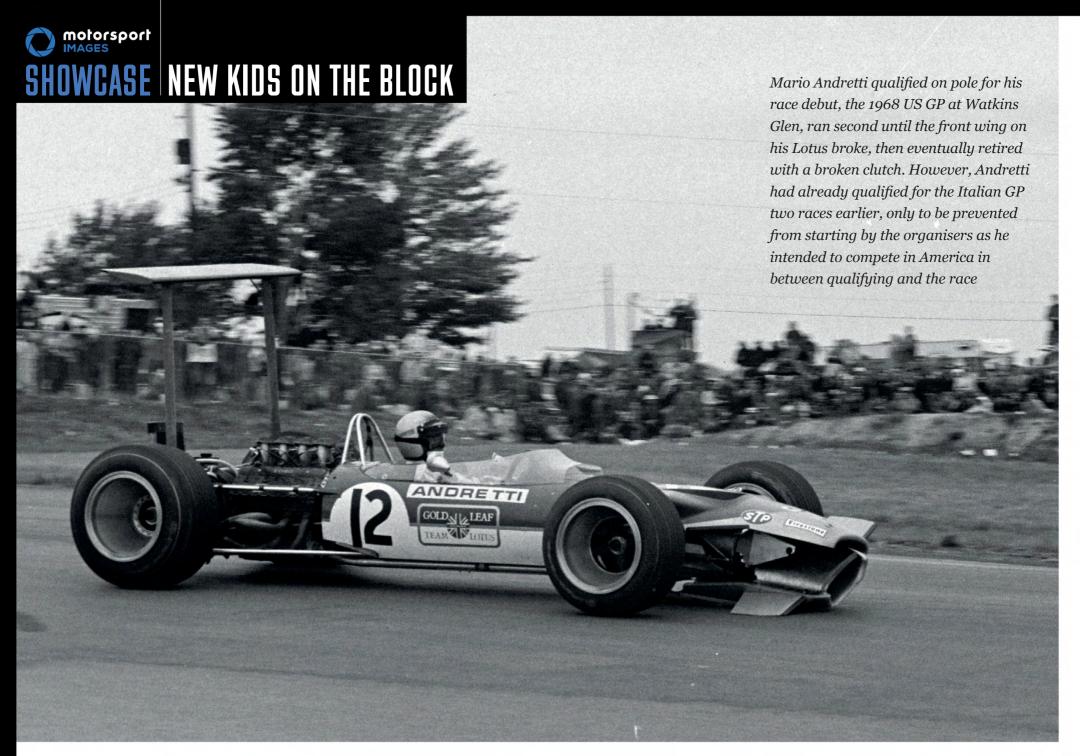




NEW KIDS ON THE BLOCK

Cars, drivers, teams, and even world championships all have to start somewhere, so it's time to take a look at the good, the bad and the ugly of Formula 1 debuts





▼ Formula 1 is littered with teams which failed to be even remotely competitive and in 1992 Andrea Moda was one such outfit. Barred from race one, and not ready for race two, Robert Moreno at least tried, and failed, to pre-qualify for the Brazilian GP. In nine races the team managed just one start...



When the Brabham BT46B 'fan' car appeared at the 1978 Swedish GP,
Lotus driver Mario Andretti called it a "bloody great vacuum cleaner".
Increased downforce meant it was a controversial yet legal winner for Niki Lauda, but the car was then withdrawn from further competition by the team





Four drivers about to take part in their first F1 race, the 2001
Australian GP, and they turned out to be a reasonable bunch.
From left to right, Kimi Räikkönen (2007 champion), Juan Pablo
Montoya (seven-time race winner),
Fernando Alonso (2005 and 2006 champion) and Enrique Bernoldi

Everything has to start somewhere and it was at Silverstone in May 1950 that the Formula 1 world championship began, with the fifth running of the British Grand Prix. The winner of the race was Alfa Romeo's Giuseppe Farina and the Italian would also win the inaugural world championship

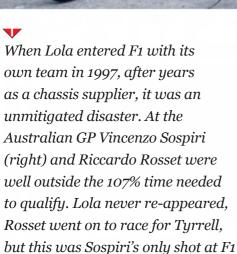




C motorsport SHOWCASE NEW KIDS ON THE BLOCK



- Johnny Herbert's F1 debut in a Benetton at the 1989 Brazilian GP was nothing short of a miracle. Seven months after the F3000 shunt when he thought he'd lost his legs, and unable to walk far without sticks which explains the bike in the pitlane he finished an amazina fourth
- When is a debut not a debut? Hans Heyer (in the yellow ATS Penske) completed nine laps in the 1977 German GP at Hockenheim but hadn't actually qualified for the race. Heyer slipped out of the pits and joined the race until his gearboy failed. And then he was disqualified









•

Nigel Mansell had already tested for Lotus when Colin Chapman handed him his F1 debut in a third car at the 1980 Austrian GP. Mansell scraped onto the grid in last place, and then spent 40 laps until his engine expired sitting in fuel that had leaked into the cockpit. Nasty burns were an unwelcome memento of his first F1 race

Only three drivers have qualified on pole for their first F1 start:

Mario Andretti, Jacques Villeneuve and Carlos Reutemann. Like

Andretti, Reutemann managed to do this on home soil and the 1972

Argentinean GP was also Bernie

Ecclestone's debut as Brabham team owner. Reutemann would finish seventh after tyre issues





SHOWCASE NEW KIDS ON THE BLOCK

Revealed to the media in late
September 1975 and first tested
in October that year, Tyrrell's
six-wheel P34 didn't make its
debut until the fourth race of the
1976 season, the Spanish GP.
Tyrrell only entered one P34,
for Patrick Depailler, who qualified
third and ran in that position for
23 laps, before crashing out of
the race on lap 25

At what point during the 1991
Belgian GP meeting this picture
was taken is unknown, but
something on the timing screen in
the Jordan garage had obviously
piqued Michael Schumacher's
interest. Schumacher qualified
seventh for a team also in its debut
F1 season, only to retire on lap
one with clutch failure







F1 in the USA had been on hold after the 2007 race at Indianapolis until the newly constructed Circuit of The Americas in Austin was awarded the race for 10 years, starting in 2012. The track, which includes a 134-foot rise to the first corner, received praise from drivers on its debut, even though it was a difficult circuit to master



- At 25, and after missing out on a race drive with Benetton for 2001, Mark Webber started his F1 career with a bang in front of his home crowd at the 2002 Australian GP. Driving for Minardi, which had last scored a point in 1999, he took advantage of a first-lap accident which eliminated eight cars to claim an unlikely fifth
- Jacques Villeneuve arrived in F1
 as the reigning IndyCar champion
 and Indy 500 winner, at a Williams
 team that was at the top of its
 game. He qualified on pole for his
 debut race, the 1996 Australian GP,
 and led team-mate Damon Hill for
 50 laps until an oil leak forced him
 to slow and settle for second





When, in 1976, Frank Williams left the team Walter Wolf had just bought a controlling stake in, Wolf decided to build his own car for 1977. He hired a group of deisgners, headed by ex-Hesketh man Harvey Postlethwaite, and the result was the Wolf WR1. Jody Scheckter took the car to a famous debut win in the season-opening Argentinean GP



RACE PREVIEW BAHRAIN GP

F1 WORLD CHAMPIONSHIP ROUND 1

26-28 March2021 Bahrain International Circuit







For the second time in its history as a grand prix venue Bahrain hosts the season opener, this time owing to the postponement of Australia's round to the tail end of the 2021 calendar. That means a friendlier start time for European viewers, as well as the likelihood of a more eventful and representative opening race than we've become used to seeing at Albert Park.

Since this year's cars are in effect B-spec versions of last year's, cooling ought to be less marginal than it generally is in this desert location, where the day-into-night race format brings wide-ranging temperature changes. Teams will have an hour's less practice time as well, since the Friday sessions have been shorn of 30 minutes each - but since only a few months have elapsed since the last race here, that shouldn't introduce too much unpredictability into proceedings.

2020 RACE RECAP

Last year's race delivered a chastening reminder that Formula 1 can never afford to be complacent about safety. Romain Grosjean survived a horrifying first-lap incident when his Haas burst into flames, which also required an 80-minute race stoppage while the barriers were mended.

Another shunt after the restart left debris which inflicted a puncture upon Mercedes' Valtteri Bottas, forcing him to make a pitstop which ruled him out of the battle for the win. That left Lewis Hamilton in charge of the race as Max Verstappen and Sergio Pérez battled for second, a position determined when Pérez's engine failed

late on. Verstappen's Red Bull team-mate Alex Albon took the final podium position.

KEY CORNER: TURN 1 There are many different ways of tackling this hairpin but the trick is not to brake too late, because that can compromise you for the next corner. The key is to preserve some momentum.





RACE DATA

Circuit name Bahrain International Circuit First grand prix 2004 Number of laps 57 Circuit length 3.36 miles Race distance 191.53 miles Longest straight 0.75 mile Elevation change 182 feet Lap record 1m31.447s Pedro de la Rosa (2005) F1 races held 17 Winners from pole 7 Pirelli tyre compounds

CAR PERFORMANCE

Downforce level Medium Cooling requirement High Full throttle 66% Top speed 203mph Average speed 137mph

TIMETABLE (UK TIME)

C2, C3, C4

Friday 26 March **Practice 1** 11:30-12:30 **Practice 2** 15:00-16:00 Saturday 27 March **Practice 3** 12:00-13:00 **Qualifying** 15:00-16:00

Sunday 28 March **Race** 16.00

Live coverage Sky Sports F1

Highlights Channel 4

THE LAST FIVE WINNERS HERE...









| 2019 | 2018 | 2017 | 2016 |
|----------|-------------------|------------------------------------|-----------------------------------------------------|
| Lewis | Sebastian | Sebastian | Nico |
| Hamilton | Vettel | Vettel | Rosberg |
| Mercedes | Ferrari | Ferrari | Mercedes |
| | Lewis Hamilton | Lewis Sebastian Hamilton Vettel | Lewis Sebastian Sebastian Hamilton Vettel Vettel |

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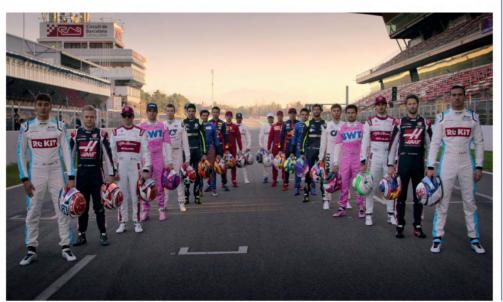
netflix.com



The third season is where many long-running series begin to sag as plotlines run dry, and characters randomly go AWOL. Famously, Lost season three features an episode so ploddingly awful that the showrunners held it up to the network as evidence that their programme needed a defined endpoint; and Blake's Seven kicks off its third run minus the titular Blake or, indeed, seven protagonists.

Given the events of 2020, though, such narrative desperation was never

going to afflict the third season of Netflix's widely acclaimed fly-on-the-pitwall documentary series *Drive To Survive*. Despite the inconveniences wrought by COVID-19, the programme makers assembled 10 drama-packed episodes, opening with the abortive Australian GP and tracing F1's remarkable achievement of restarting racing again – plus the small matter of two first-time winners and the newly crowned world champion falling victim to the virus. All episodes are due to 'drop' on 19 March.

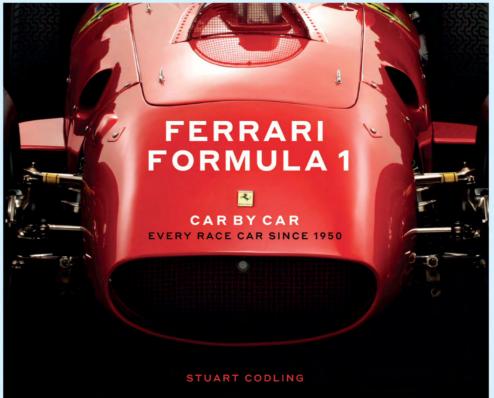


FERRARI FORMULA 1 CAR BY CAR: EVERY RACE CAR SINCE 1950

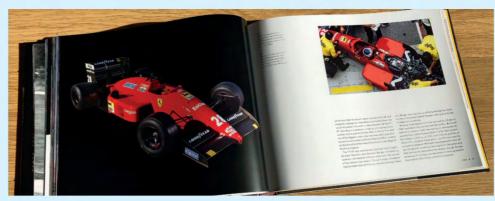
Author Stuart Codling

Price £40

quartoknows.com







Originally timed to coincide with Formula 1's 70th anniversary celebrations, the publication of this lavishly illustrated compendium of Ferrari F1 cars was delayed by the COVID-19 pandemic. Written by *GP Racing's* executive editor, it presents every Ferrari F1 race car in chronological order, covering significant technical features and developments as well as each car's competition record.

Fans of our regular Now That

Was A Car slot will be pleased to see the photographic work of James Mann also features. Enzo Ferrari was famously unsentimental about his race cars once they were spent (materials shortages in Italy enforced prudence in this regard), so many of the 1950s and '60s cars no longer exist, having been scrapped and recycled. They live on in contemporary action photography here – even the rarely seen 275, which raced just once in 1950.

THE BOY – STIRLING MOSS: A LIFE IN 60 LAPS

Author Richard Williams

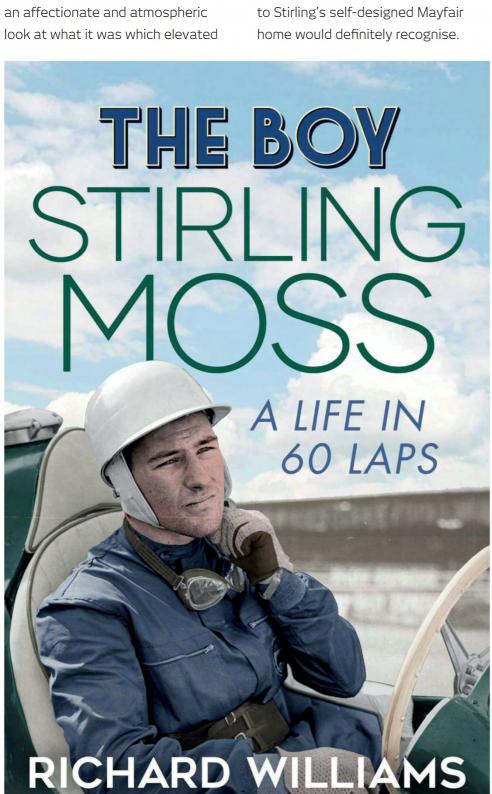
Price £20

simonandschuster.co.uk

"A traffic policeman stops a speeding motorist. His first question: 'Who do you think you are – Stirling Moss?" There are plenty of biographies (including an authorised one) of 'Mr Motor Racing', who passed away last year, but this new work by acclaimed sportswriter and GP Racing contributor Richard Williams doesn't aspire to be a conventional biography. Rather it is an affectionate and atmospheric look at what it was which elevated

him to this iconic status.

The titular '60 laps' equate to 60 chapters devoted to themes, moments, details of the racing life, and other notable biographical fragments. Tackling elements of his life by theme means the chapters don't always follow sequential order but this adds to the charm: it's a book eminently suitable to dip into, with a feeling of eclecticism visitors to Stirling's self-designed Mayfair home would definitely recognise.









LOTUS TYPE 25 HERITAGE HOLDALL

Price £795

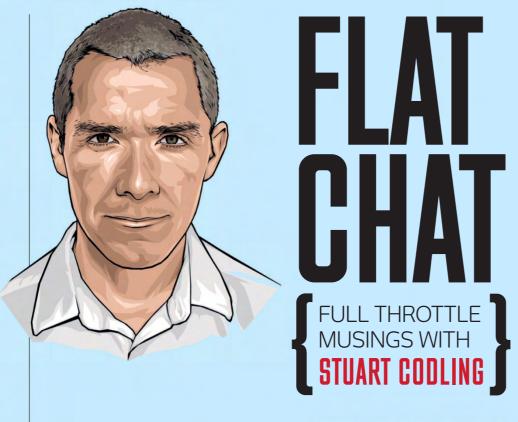
jordanbespoke.com

The latest product of a long partnership between fine leather goods master Simon Jordan and Classic Team Lotus, this hand-made holdall is officially licenced and celebrates the Lotus 25 with which Jim Clark achieved his first F1 title in 1963. Introduced in 1962, the car propelled Clark to his first world championship grand prix victory and took him to the cusp of winning the drivers' title before engine failure eliminated him in the final round. The following year he racked up wins in seven of the 10 rounds.

Appropriately enough, the leather for the holdall is supplied by the Scottish-based Bridge of Weir company. It's presented in the Team Lotus colours of green and yellow and carries the number 8 on the roundel, harking back to Clark's race number in the 1963 Italian GP, where his victory put the outcome of the championship race beyond doubt. This being a bespoke item, though, the numbers are user-customisable.

The lining of the bag is Italian flock in red, matching the interior of the original race car.







old as to be irrelevant, but this year some have gone to still greater lengths to disguise what they're up to. Not that this has stopped the tawdry practice – especially prevalent on YouTube, where 'monetisation' rules – of certain mountebanks who offer sage 'technical analysis' of the images released by the teams... even though they bear scant

resemblance to what will be tested, let alone raced.

The pandemic has pushed launches into the online space, making for an unprecedented degree of stage management. Red Bull's commitment to obfuscation bordered on obsessive: its 'launch' consisted of video footage of Sergio Pérez in what was transparently a two-year-old car, plus static renders of the 'actual' RB16B with the new bits clearly blacked out. Why so secretive? Well, as Renault chassis chief Pat Fry pointed out, he could look at a picture of crucial

> innovations around a rival's back end and have similar concepts running in the windtunnel within a couple of days, with a view to having them on his car in the Bahrain test. This way nobody will be able to sign off copies until the season is in train.

WHAT WE GOT AHEAD

OF TESTING WAS A

SERIES OF LIVERY

VARYING DEGREES

LAUNCHES WITH

OF ELABORATION

Essentially, what we got ahead of testing was a series of livery launches with varying degrees of elaboration. Some teams simply issued renders or studio shots of their notactual cars along with anodyne quotes from their drivers, the COVID-era equivalent of unveiling the car in the pitlane at Barcelona and then inviting everybody to bugger off and let them get down to business.

Others strove for glitz, an experiment perhaps best left unrepeated in the virtual world. Alpine's Glitchy McGlitchface stream was at least functionally useful in terms of access to the senior personnel present; Aston Martin's effort, heavy on celebs, light on lightness of touch, felt over-scripted and under-rehearsed, to the extent that at certain points host Gemma Arterton seemed to be unwittingly channelling Sam Fox and Mick Fleetwood's hapless double-act at the 1989 Brit Awards.

Yes, the hour is now long overdue for the teams to do what they do best - go racing...

GP Racing has a podcast!

Search for 'Flat Chat with Codders' in your podcasting platform of choice.

WHEN THE FLAG DROPS, YOU STOPS

We're at the beginning of the end of one set of technical regulations – but seldom has there been so much at stake, and so much secrecy, in the early phases of a season which represents the off-ramp for an entire technical philosophy. 2022 may be The Great Reset but there's plenty of intrigue right now.

The changes to the cars for this season may seem inconsequential on the face of it – a trim around the floor area the most obvious visual change – but they amount to a heap of lost downforce which requires teams to innovate to recoup that loss. Inevitably some ideas will prove more effective than others, and the less successful teams will rush to copy those better executions.

This season that rush is even more pressing because most teams will want to rebalance design resource towards next year's cars as soon

as possible. Mercedes owes much of its present dominance to a prudent strategic design to focus early on the shift to hybrid power; conversely, back in 2008 Ferrari and McLaren were so embroiled in a development war for that year's titles they neglected preparations for the big changes in 2009, a season in which both underachieved.

The smartest teams are looking to taper their efforts on the current cars early, which means hitting development hard straight away. For that reason, then, this year's launch period has been marked by a high degree of secrecy.

We're well accustomed to teams launching their cars in either dummy aero specs or ones so

Red Bull was not alone in hiding its solutions to the 2021 changes until the last possible moment







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